YANGON UNIVERSITY OF ECONOMICS

DEPARTMENT OF MANAGEMENT STUDIES

MBA PROGRAMME

THE EFFECT OF TOTAL QUALITY MANAGEMENT PRACTICES ON ORGANIZATIONAL PERFORMANCE OF THUKHA KABAR HOSPITAL

PYAE SONE KAN

MBA II - 19

MBA 23rd BATCH

SEPTEMBER, 2019

YANGON UNIVERSITY OF ECONOMICS

DEPARTMENT OF MANAGEMENT STUDIES

MBA PROGRAMME

THE EFFECT OF TOTAL QUALITY MANAGEMENT PRACTICES ON ORGANIZATIONAL PERFORMANCE OF THUKHA KABAR HOSPITAL

PYAE SONE KAN

MBA II - 19

MBA 23rd BATCH

SEPTEMBER, 2019

YANGON UNIVERSITY OF ECONOMICS

DEPARTMENT OF MANAGEMENT STUDIES

MBA PROGRAMME

THE EFFECT OF TOTAL QUALITY MANAGEMENT PRACTICES ON ORGANIZATIONAL PERFORMANCE OF THUKHA KABAR HOSPITAL

ACADEMIC YEAR (2017 – 2019)

Supervised by

Daw Hla Hla Myo

Lecturer

Department of Management Studies

Yangon University of Economics

Submitted by

Pyae Sone Kan

MBA II – 19

MBA 23rd Batch

2017 – 2019

YANGON UNIVERSITY OF ECONOMICS

DEPARTMENT OF MANAGEMENT STUDIES

MBA PROGRAMME

THE EFFECT OF TOTAL QUALITY MANAGEMENT PRACTICES ON ORGANIZATIONAL PERFORMANCE OF THUKHA KABAR HOSITAL

This thesis is submitted to the Board of Examiners in partial fulfilment of the requirements for the degree of Master of Business Administration (MBA)

Supervised by

Daw Hla Hla Myo

Lecturer

Department of Management Studies

Yangon University of Economics

Submitted by

Pyae Sone Kan

MBA II – 19

MBA 23rd Batch

2017 – 2019

ACCEPTANCE

This is to certify that the thesis entitled "**The Effect of Total Quality Management Practices on Organizational Performance of Thukha Kabar Hospital**" has been accepted by the Examination Board for awarding Master of Business Administration (MBA) degree.

Board of Examiners

……

(Chairman)

Dr. Tin Win

Rector

Yangon University of Economics

……	……
(Supervisor)	(Examiner)
……	……
(Examiner)	(Examiner)

SEPTEMBER, 2019

ABSTRACT

The purposes of this study are to analyze the effect of total quality management practices on organizational performance of Thukha Kabar Hospital and to examine the mediating effect of lean management on relationship between TQM practices and organizational performance of Thukha Kabar Hospital. Based on the results of study employee focus, customer focus and process management have significantly effect on both hospital effectiveness and employee satisfaction while strategic planning has only effect on employee satisfaction. Moreover, lean management practice has partially mediated between TQM practices and both dimensions of organizational performance of Thukha Kabar Hospital. It can be concluded that the organizational performance will be effective and efficient if the hospital can practice both total quality management and lean management.

ACKNOWLEDGEMENTS

First and foremost, I would like to express my gratitude to Dr. Tin Win, Rector of the Yangon University of Economics, for acknowledging me to implement this study as a partial fulfillment of Master Degree of Business Administration. Secondly, I am grateful to Professor Dr. Nilar Myint Htoo, Pro-Rector of Yangon University of Economics for providing me to successfully accomplish the study.

My deepest thanks go to Professor Dr. Nu Nu Lwin, Head of Department, Department of Management Studies of the Yangon University of Economics, who gave the permission to complete this research topic as a partial fulfillment of Master of Business Administration.

Especially, I would like to acknowledge and thank my supervisor, Daw Hla Hla Myo, Lecturer, Department of Management Studies, for her patient guidance, encouragement and useful advice during the planning and development of this research study as I would not be able to make it finish this paper without her support.

I would like to express special thanks to Managing Director U Thant Zin, and responsible persons of Thukha Kabar Hospital for giving me opportunity and permission to do this study on the hospital, providing information required for the study, their precious time and effective help.

Besides, I am very grateful to all my friends and classmates from MBA 23rd Batch for their kind suggestions and warm spirit of sharing friendship.

Finally, I am really thankful to my parents and family who understand and encourage me on every side in pursuing this degree successfully.

Pyae Sone Kan

MBA II – 19

MBA 23rd Batch

2017 - 2019

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

CQI	Continuous Quality Improvement
JCAHO	Joint Commission on Accreditation of Health care Organizations
JIT	Just in Time
LAI	Lean Aerospace Initiative
LEAST	Lean Enterprise Self-Assessment Tool
OM	Operations Management
QM	Quality Management
TPS	Toyota Production System
TQM	Total Quality Management

CHAPTER 1

INTRODUCTION

In recent years, quality of health care has been a much-debated issue all over the world. With a steadily aging demography, the pressure on the healthcare sector is increasing and will be subject to hard trials in the years to come. Even if the expenses for health care are rising in many countries medical errors and patient satisfaction seems not to have improved (Spear, 2005). When quality indicators go down there is a tendency everywhere to try solving the problems by letting more money flow into the areas that are poorest on the quality indicators. There is not so much discussion on why the quality indicators are low. The implicit paradigm is that quality costs money, and if you experience low quality you must use more money for improving the quality.

The healthcare sector has the challenge of reaching the triple aim of providing care, enhancing health and maintaining low cost. Even if health care is specific and cannot be compared directly with other businesses, we are convinced that health care can benefit by studying and adapting the theories, principles and methods of total quality management (TQM), which have proved to be useful in other industries. The theories, principles, tools and methods of quality management can be very useful in the healthcare industry for several reasons. The first reason is that quality management has evolved into a holistic and people-oriented management discipline, which requires total employee involvement and team building to succeed. The healthcare industry has had a long tradition of such a culture, so this requirement should not be a problem. Another reason is that modern quality management has a lot to offer to health care on the specific principles, tools and methods for working with continuous improvements (Dahlgaard & Eskildsen, 1999).

The term lean health care has emerged indicating a stronger focus on efficiency and patient satisfaction within the healthcare sector. Like many other organizations, start to implement lean management without having understood the cultural and structural preconditions for implementing lean management and TQM (Dahlgaard & Dahlgaard-Park, 2006). Many healthcare organizations have tried to implement TQM without great success and had the same experience with lean management. It normally requires, as with TQM, a cultural change where the soft or intangible factors of management (the systemic

factors) like leadership, people management and partnerships are changed, so that a new organizational culture is developed to support and improve the hospitals core processes.

1.1 Rationale of the Study

Healthcare system is faced with challenges and opportunities from a rapidly changing operating environment, including increasing expectations on the quality of healthcare. Lean concept originally developed in the automotive industry to deliver high quality product and services while improving organizational performance and satisfying customers (Leslie, 2006). In today's health care budget excess healthcare costs, errors endangering patient safety, time wasted and patients and health workers from hospitals and bureaucratic inefficiency have led to the search for a new management style. First, lean management has become the indispensable standard for the hospitals. In all business processes with the principles developed by the Toyota, hospital studies showed a significant improvement: reduced costs, increased employee satisfaction and patient care services improved. The implementation of a lean thinking approach to the hospital led to the term Lean hospitals being used (Womack, 2000).

Healthcare professionals eliminated waste maximizing value owned Lean hospitals, as well as other organizations, to determine the desired values of users, eliminating steps without added value and they have to move them all to the end of the beginning of doing value stream according to the needs of the patients (Graban, 2011). Lean implementation of the health institutions has created a positive impact in both administrative and clinical processes which has been demonstrated in many studies. As well as to patients in the care process, and health workers in giving treatment, the operation process can also be applied in areas such as imaging services (Graban, 2007).

However, some organizations have begun adapting these concepts for the healthcare industry. Rexhepi and Shrestha (2011) stated that there is need of lean in the healthcare sector. This is not only applicable in hospitals, but also in the private clinics or nursing home. Hagg et al. (2007) has been stated that lean is an effective tool for identifying and eliminating waste from process. The benefit and goal of applying lean in healthcare is to best approach to reduce waste, as well as reducing wait times and unnecessary travel, while building quality, speed, and flexibility into the organization.

In Myanmar, healthcare system evolves with changing political and administrative system (MOHS, 2017). Healthcare is also one of the most important starting points of the development and it is one of the largest and fastest growing industries in the country. Myanmar's healthcare sector is serviced by both the private and public sectors. the private healthcare is more acceptable and reliable among the people and most of the service providers are competing in giving better services. So, the private healthcare sector takes place as a growing business in Myanmar healthcare sector.

The health system should be equitable, affordable, efficient, technological appropriate, environmentally adaptable and consumer friendly, with emphasis on quality, innovation, health promotion and respect for human dignity, and which promotes individual responsibility and community participation towards an enhanced quality of life. Therefore, it is required that quality management is an important factor for the success of the organization and the core reason to study quality management of Thukha Kabar Hospital.

1.2 Objectives of the Study

There are two main objectives in this study. They are:

1. To analyze the effect of TQM practices on organizational performance of Thukha Kabar Hospital.
2. To examine the mediating effect of lean management on relationship between TQM practices and organizational performance of Thukha Kabar Hospital.

1.3 Scope and Method of the Study

This study focuses on TQM practices, lean management and organizational performance of Thukha Kabar Hospital. This hospital is one of the 100 bedded hospital in Yangon. Total sample of 173 staffs out of 312 permanent hospital staffs take part in this study.

The study is done by analytical research method and simple random sampling technique. Both primary and secondary data are used. Primary data are collected from structured questionnaires. Secondary data are collected from the hospital's annual reports,

human resources department's records of Thukha Kabar Hospital, text books, international journals, papers, articles, reports and relevant websites.

This study includes the TQM practices and lean management in Thukha Kabar Hospital which bases on the five-TQM practices (top management commitment, strategic planning, employee focus, customer focus and process management) and the four-lean management (lean leadership commitment, culture & involvement, patient pathway integration and lean process maturity). The study measures the organizational performance with two dimensions such as hospital effectiveness and employee satisfaction.

1.4 Organization of the Study

This study is divided into five chapters. Chapter one involves introduction including rationale of the study, objectives of the study, scope and method of the study and organization of the study. Chapter two covers the theoretical background of total quality management. Chapter three describes total quality management practices and lean management of Thukha Kabar Hospital. Chapter four contains analysis on the effect of TQM practices on organizational performance of Thukha Kabar Hospital. Conclusions which describe findings, suggestions, limitations and needs for further research are included in chapter five.

CHAPTER 2

THEORETICAL BACKGROUND

This chapter includes the highlights of thermotical background of the study which is concept of quality, total quality management practices, concept of lean, lean management, organizational performance, the relationship between TQM practices, lean management and organizational performance, and conceptual framework of the study.

2.1 Concept of Quality

Quality is a significant element of manufacturing or services in keeping the customers satisfied. There are different definitions and views of the term quality by different people. Quality is multidimensional to produce a product or deliver a service that meets the customer's expectations to ensure customer satisfaction (Deming, 1986). "Quality is apparently associated with customers' requirements, and fitness suggests conformance to measurable product characteristics" (Juran, 1988). Quality is conformance to requirements (Crosby, 1979). Therefore, the quality of a product or service refers to the perception of the degree to which the product or service meets the customers' requirements. Quality is a source of employee empowerment (Kondo, 1997). A major aim of a company is to make itself attractive to its employees and customers while making profits for its shareholders. In healthcare, quality is the degree to which healthcare services for individuals and populations increase the likelihood of desired health outcomes (Sabell et al., 2014).

Quality is of utmost importance for a business to succeed. Poor quality results in customer dissatisfaction and hence can affect the company's brand image. But the meaning of quality at manufacturing organizations is different from the one at service industry. In manufacturing firms, quality almost focuses on tangible product features which are the extents whether a product corresponds in appearance to the pre-defined specifications or not. Since service organizations produce intangible products, the assessment of quality is made during the service delivery process. Therefore, service quality is the difference between customers' expected service and perceived service and measured by perceptional

factors such as courtesy, friendliness, waiting time, etc. There are six dimensions to measure quality such as safe, effective, patient-centered, timely, efficient and equitable (IOM, 1996).

2.2 Total Quality Management

The quality management concept was recognized since ancient times in Japan in the late 1930s specifically after the World War II. After that, several firms in the manufacturing sector were focused on enhancing quality and utilizing tools that directly aim to control quality at these firms (Demirbag et al., 2006; Talib et al., 2010). Furthermore, both USA and UK accepted the idea of quality management (QM) especially in manufacturing sector in those countries. Subsequently, QM has been recognized widely in several international standards such as in the ISO 9000 and the idea of QM was largely accepted these standards (Sachdeva et al., 2007). Various techniques were also proposed for QM practices, in which it is considered as a method to enhance quality and efficiency of different industries services and products. One of the main internationally accepted approaches is total quality management (TQM) in which this approach essentially attempts to create a comprehensive cooperation between all organization functions in order to fulfill customers' demands in an efficient way and to achieve all organizational goals.

Total quality management also engages all organization staff members in the process of covering customers' expectation through utilizing problem-solving methods to enhance the quality of all organizational products and services. The main focus of total quality management philosophy is to achieve a comprehensive integration among organizational staff and their functions in order to gain better enhancement, progress and preservation of products and services quality to achieve customer satisfaction (Talib, 2013).

This managerial philosophy is directly focusing on improving business quality and satisfaction of managers through enhancing the employee's involvement in decision making processes by utilizing teams of quality improvements and quality circle strategies (Yusuf et al., 2007). Many literature (Talib et al., 2012) provided various concept on TQM; however, all of them share similar basic elements. One example is that all TQM considered customer as the key focus in this managerial strategy. Furthermore, one of the most important elements that ensure the success of TQM practices is the management commitment. Other essential organizational situations to achieve TQM success are

organizational culture and alterations. Therefore, total quality management is a managerial strategy that aims to enhance organizational performance and efficiency through enhancing the quality of services and products in the organizations (Arumugam et al., 2008).

The interest in total quality management practices was largely enhanced in the last two decades and it is considered as an essential field to study for many scholars (Yusof & Aspinwall, 1999; Arumugam et al., 2008). Gharakhani et al. (2013) indicated that TQM was largely accepted at different services sectors as a managerial strategy that essentially aims to enhance performance of organizations. Moreover, TQM is considered as a comprehensive integration between several models, procedures, individuals and communication processes to cover all customer demands (Van, 2011).

Talib and Rahman (2010) proposed a TQM model which recognized as "Components of TQM" model. They clarified the main practices that could enhance the performance of organizations. TQM practices include commitment of top-management, focus on customers, training and education, continuous improvement, supplier management, involvement and encouragement of employees, benchmarking, and quality information and performance. The outputs are the enhanced productivity and quality, the achievement of high-level customer satisfaction, the improved customer loyalty and on-time delivery.

In healthcare services there are three definitions distinguished TQM. The first one is "TQM is a comprehensive strategy of organizational and attitude change for enabling personnel to learn and use quality methods, in order to reduce costs and meet the requirements of patients and other customers". The second is "Maximization of patient's satisfaction considering all profits and losses to be faced in a healthcare procedure". The third definition is "TQM/CQI – Continuous Quality Improvement – is about two things: a management philosophy and a management method".

2.2.1 Top Management Commitment

Management commitment is the most crucial factor for the success of TQM and it lack is the most often cited pitfall. Without a positive commitment any strategy for change is likely to fail (Kanji, 2002). A key challenge for leaders is to effectively manage the relationship between the organization's Vision, Mission statements, Strategies, and Value. Together, the Mission and Vision statements give direction to an organization, and function

as a compass or road map, leading to better performance (SA & Kanji, 2003). Top management commitment to quality and leadership must be demonstrated by developing and communicating the organization's vision throughout the organization; Leaders are therefore required to create a quality vision, reduce or minimize resistance to change, initiate quality as a culture, meeting customer dynamics expectations and encouraging continuous improvement. To achieve these goals, top management is assumed to be actively involved in establishing and communicating the organization's vision, goals, plans, and values for its quality program (Dering, 1998). Top management commitment requires living the culture, aptly described by Juran, should improve customer orientation, empowerment, and teamwork.

The responsibility for quality improvement is not related to any one individual or a particular aspect of an organization. Instead, it should be viewed as the responsibility of all major department within an organization. Accordingly, managers and supervisors should allow employees to take necessary actions on their own initiatives and all employees should be given the opportunity to share in implementing the organization and then conceive a strategy accordingly. Leaders have to see that the essential day to day activities are carried out and establish mechanisms that put into operational terms what were intended in the vision/mission statement, and what is necessary to carry out the organization's strategy (Kanji, 2002). Rather than planning, running, and controlling, management's role must be directed at driving, involving and assessing (Fuentes et al., 2006). The TQM transformation will be successful if top management requires and ultimately institutionalizes an honest organizational-wide conversion that includes the quality of management in each subunit of the organization and leads to change in management quality or the replacement of managers; the quality of overall management is reliant on the capacity of the senior team to develop a whole hearted commitment to TQM and make decisions that are consistent with it (Beer, 2003).

2.2.2 Strategic Planning

The term "planning" varies based on the different usage scenarios of the term. Loasby (1967) argued that the word "planning" is currently used in so many and various senses that it is in some danger of degenerating into an emotive noise. Definitions of strategic planning, for the most part, are varied yet remarkably alike in many ways: an

extensive review of the literature gives several definitions of the term “strategic planning”. Viljoen (Viljoen, 1994) described strategic planning as “the process of identifying choosing and implementing activities that will enhance the long-term performance of an organization by setting directions and by creating an ongoing compatibility between the internal skills and resources of an organization and the changing external environment in which it operates”. Johnson and Scholes (1993) have quite a similar definition of strategic planning as Viljoen: they emphasized that the direction and compatibility of an organization with its environment. Strategy is “the direction and the scope of an organization over the long term, which matches its resources to its changing environment”.

Strategic planning as a way to comply and align the organization with policy. Boulter (1997) defined that strategic planning as “a procedure for developing a long-term and policy-oriented device”. Barry (1997)emphasized the leadership role and management decisions and states that it is “what an organization intends to achieve and how leadership within an organization will utilize its resources to achieve its ends”. Kovac and Thompson (1994) defined that it as “the process by which an organization establishes its objectives, formulates actions designed to achieve these objectives within a time frame, implements the actions and assesses progress and results”.

The purpose of this section is not to find a universal definition of the term as much as to find an appropriate definition that will serve the purpose of this research project. Mintzberg (1994) stated that the need for such a definition is not to create a place for planning so much as to reorganize the place it already does occupy with regard to strategy. In doing so, Mintzberg summarized various definitions into one fine definition of planning: “Planning is a formalized procedure to produce an articulated result, in the form of an integrated system of decisions”.

2.2.3 Employee Focus

TQM is an essential means of organizing and involving the whole organization, every department, every activity and every person at every level. Since employees are one of the most critical stakeholders of an organization, an employee focus is also a crucial determinant in the success of TQM implementations (Sabell et al., 2014). The first concern of the company is the happiness of people who are connected with it. If the people do not feel happy and cannot be made happy, that company does not deserve to exist. The first

order of business is to let the employees have adequate compensation and benefits (Ishikawa, 1985).

Training and education are necessary for sustaining organizational growth and advancement and these are considered by all of the Awards to be one of the pillars of Total Quality (Crosby, 1979). Training should be provided to allow employees to attain higher skills and should include training in techniques such as, statistical methods and managerial skills in decision making, leadership, team building, safety, etc. (Aly & Schloss, 2003). An organization needs to regularly organize TQM training programs to create quality awareness among employees in order to familiarize themselves with different quality management concept and methods. Training schemes need to be correctly organized with equal focus on behavioral skill; team building and group centered activities; enhancing communication competencies, customer value training (both external and internal) and making training relevant to employees' individual work situations (Palo & Padhi, 2003). Training for both managers and workers is an essential component of a process for prevention of errors (Kanji, 2002). Performing training programs alone does not guarantee TQM success. They must be strategically aligned with performance evaluations based on quality outcomes (Kassicieh & Yourstone, 1998).

Employees should be rewarded by their contribution to the organization, their skills and experience, irrespective of age, sex or any other traits, which are unrelated to the function they perform (Tan & Tan, 2002). Many managers favor recognition such as: letters of commendation, tokens of appreciation, flowers, and mention in the company's newsletters or paying for employees' participation, although most believed that monetary incentives can easily detract workers from the proper meaning of the suggestions scheme (Yong & Wilkinson, 2003) but whatever scheme is used it should produce improvement in the capacity of employees to identify and develop their potential and subsequently produce employee's satisfaction. It was further stated that if TQM programs are to be successfully operationalized, the personal security concerns of all those involved need to be addressed. Well-conceived training, mentoring, and feedback systems have confirmed that they serve central roles in eliminating employee resistance to change (Jan et al., 2004).

2.2.4 Customer Focus

It is not surprising that issues to related to customer focus and satisfaction receive the largest coverage in the TQM literature, given the major push toward customer satisfaction orientation in virtually all types of businesses (Sila & Ebrahimpour, 2002). TQM is an approach to quality that emphasizes the involvement and commitment of every employee in order to provide quality products and services to the satisfaction of their customer (Arawati & Mokhtar, 2000). Many new products have been introduced, perfectly manufactured according to technical specifications, only to fail in marketplace because they failed to respond to evolving customer needs and preferences (Arawati & Mokhtar, 2000). An organization's primary purpose is to stay in business, to promote the stability of the community, and to generate products and services that are useful to customers and provide a setting for the satisfaction and growth of its shareholders (Ishikawa, 1985).

Quality is not only a measure of product quality and its technical aspects; it also concerns the processes in the company or organization that ultimately satisfy customers. Therefore, TQM is a means to streamline production but, most importantly, also to create satisfied and hopefully faithful customers. The customers are the judges of the company and it should be remembered that there are customers both inside and outside the company (Ljungstrom & Klefsjo, 2002). Customer focus is a central tenet orientation; it is a set of beliefs that puts the customer's interest first but does not exclude those of all other stakeholders such as owners, managers and employees, in order to develop a long-term profitability (Nwokah & Maclayton, 2006).

Creating customer-oriented organizations requires external customers' current and future requirements so that the organization needs to establish a wider variety of mechanisms for customers to contact the organization easily and effectively as well as other broad mechanisms for seeking and learning of customers' needs and expectations (Lai, 2003). It is not only necessary to listen to the customers' view but also analyze and understand these needs. Moreover, the availability of customer complaint information to managers and the degree of the use of customer feedback to improve product quality reveal the level of customer focus in an organization. As customer expectations are dynamic, an organization needs to survey customer expectations regularly and modify its operations accordingly (Jaafreh & Al-abedallat, 2012). Becoming a customer-oriented organization has become one of the major challenges facing organizations so that tailoring and

implementing strategies aimed at improving customer satisfaction should be at the heart of any organization.

2.2.5 Process Management

The main idea behind process management in TQM is that an organization is a group of interlinked processes and that improvement of these processes is the foundation of performance improvement (Deming, 1986). Effective process management will develop a sense of ownership in employees' work, satisfaction, success coming from the variation reduction, quality improvement, and process performance optimization. Hence, quality processes are of great importance for delivering quality products/services and satisfying customers' needs (Deming, 1986).

Every organization is a group of interlinked processes. A process is defined as the transformation of a set of inputs, which can include actions, methods and operations, into outputs that meet customer needs and expectations, in the form of products, information, services or generally results (Okland, 1993). This requires a company to define, monitor and control the inputs to process, which in turn may be supplied as output from a previous process. Thus, every single task throughout the organization must be viewed as process in this way. The responsibility for quality in any transformation process must lie with the operator of that process.

The effectiveness of process management implementation is one of the major dimensions of integrated quality efforts. Effective process management will develop a sense of ownership in employees' work, satisfaction, success coming from variation reduction, quality improvement and process performance optimization (Abusa, 2011). Hence, quality processes are of great importance for delivering quality products or services and satisfying customers' needs (Deming, 1986). All activities carried out within an organization can be broken down into fundamental tasks or processes, and these fundamental processes are connected together in a quality chain (Crosby, 1979). As a result, all processes will have an effect on one another. Therefore, process-oriented approach will have an organization to put customers' needs central to their operations so that when customers demand novel products or services, the organization can deliver them faster and easier, meeting the requirements by adjusting its business process accordingly (Abusa, 2011).

2.3 Concept of Lean

The concept of lean has been developed in the automobile manufacturing field and got spread within and outside that segment of global industry. Toyota is the pioneer company at which this concept has been developed. Thus, it is known as Toyota Production System (TPS). As a response to technological, financial, and labor challenges which Toyota was encountering in 1950s, it was able, over three decades, to develop a new concept for producing automobiles that superseded production systems used at that time, in both yield and quality, while consuming fewer resources and reducing manufacturing lead times (Dennis, 2002).

It is greatly interesting to notice that most of lean tools and concepts were developed much earlier than 1950's (Lean enterprise institute, 2009; Dennis, 2002; Womack, Jones, & Roos, 1990). However, it was Ohno's wisdom and other Toyota members which had put the several pieces of the lean system puzzle into their correct places and developed this effective production system (Womack et al., 1990).

Although TPS concepts and tools led to remarkable process improvements within and outside the automobile industry, other quality improvement tools and methodologies can be incorporated to achieve lean primary objective, as long as this objective remains to be the primary focus of the adopting organization (Lean enterprise institute, 2009).

Led by Toyota, lean producers are able to produce volumes of variety products, triggered by customer desires, while avoiding the high cost of craft production and the rigidity of mass production (Womack et al., 1990). Such level of performance is achieved by using highly flexible, increasingly automated machines and forming teams of multi-skilled workers to operate at all levels of the organization (Womack et al., 1990). The major characteristic that distinguishes lean producers from mass producers is setting their objectives at perfection and that is translated into endless improvement cycles aiming at continuous cost reduction, zero inventories, and zero defects while providing product variety with high levels of quality (Womack et al., 1990).

It is nowadays a common notion that lean with its improvement focus is a concept that is relevant in more sectors than manufacturing, such as in the service sector (Radnor et al., 2006; Radnor et al., 2012) and in health care (de Souza, 2009; de Souza & Pidd, 2011; Mazzocato et al., 2012; Radnor et al., 2012).

Lean Health is at an early stage of development and often lean in healthcare focuses on the use of particular tools (Mazzocato et al., 2012). Radnor et al. (2012) stated that health care organizations are at a stage equivalent to automotive manufacturing in the late 1980s and early 1990s and they argue that lean in healthcare needs to move from a tool focus to embrace lean thinking more broadly across the wider healthcare system. However, there are some initially reported positive effects from the application of lean in healthcare: reduction of patients' waiting times (Mazzocato et al., 2012; Radnor et al., 2012), positive impact on quality (Kim et al., 2006; Radnor & Walley, 2008), reduction in cost (Radnor et al., 2012), increased satisfaction among staff and patients (Radnor et al., 2012), increased efficiency in patient flow (Kim et al., 2006; Radnor & Walley, 2008) and increased productivity (Radnor & Walley, 2008).

2.4 Lean Management

Lean management refers to a technique developed with the aim of minimizing the process waste and maximizing the value of the product or service to the customer, without compromising the quality (Endsley, Koning, & Godfrey, 2006). Adopting lean quality practices is a strategic imperative for many organizations. Lean practices ultimate goal is to achieve organizational efficiency and greater productivity while providing services at lower costs. At the initial stage, lean was incorporated by an automotive manufacturer as a methodology to enhance its overall performance. It has evolved into an approach utilized by management to improve the overall performance of the organizations processes. Hwang and Hong (2014) emphasized that implementing lean practices is designed to improve the performance of the organization.

In order to attain effective lean practices, it is important to address complex issues related to lean implementation including shared vision, fair implementation processes and outcomes (Joosten, 2009). In lean implementation, the core principles include specifying value as per the customer's needs, recognizing the value stream, synchronizing the varied organization processes to ensure effortless production to meet customer demand and ensuring perfection through continuous improvement. The following practices are more process oriented therefore are able to be incorporated with the distinctive characteristics of services.

Just- in- time (JIT) is a practice set out to eliminate waste (Radziwill, 2013). JIT continuously seeks to make processes more efficient by emphasizing provision of quality services. Lean focuses on reducing waste through maximizing activities that add value to the customer (Ohno & Shingo, 1997). Total quality management underlines the need to efficiently utilize the organizations resources through improving the quality of goods and services (Collins, 1996). It encompasses customer focus, continuous improvement, employee training and involvement.

Kaizen refers to continuous improvement practices such as continued use of technology implementations e.g the enterprise resource planning makes access to information much faster and cheaper thus aiding in time management. Standardization of procedures enables work processes to improve thus laying the basis for continuous improvement. Kaizen seeks to attain increased quality and productivity as it helps to improve accountability and commitment from employees (Ramadani & Gerguri, 2011).

Lean Management in service industry can be understood to be well defined processes consisting of activities that generate value for customers and meet their expectations. There is need to involve the employees in the process leading to their empowerment. Organizations view lean as the best way to stimulate business performance in all aspects.

2.4.1 Lean Leadership Commitment

Liker and Convis (2011) stated that a leadership model describing the most important characteristics of Toyota leadership. The model consists of four stages: (1) Commit to Self-Development; (2) Coach and Develop Others; (3) Support Daily Kaizen and (4) Create Vision and Align Goals. We discuss the four stages of the model below and relate them to viewpoints and experiences of the other authors writing about lean leadership.

The first stage implies that lean leaders need to have a strong commitment to self-development and must develop themselves first before they can take responsibility for teaching others the philosophy. The most important values of the Toyota philosophy, known as the True North values, are the spirit of challenge, kaizen, genchi genbutsu, teamwork and respect for humanity. Lean leadership needs to be supported by lean beliefs that drive certain behaviors and over time result in managerial competencies (Emiliani,

2008). Liker (2004) also emphasized that Toyota leaders have both in-depth understanding of the work and the ability to develop and lead people, and are respected for both their technical knowledge and leadership abilities.

The second stage is about coaching and developing others. The lean leaders are expected to teach employees the values and cultural norms of the organization, which means they must understand and live the culture. They should encourage, promote and enable organizational learning and knowledge sharing (Mann, 2005). The culture must support the employees doing the work (Liker, 2004) and be characterized by trust, shared responsibility, and openness to experimentation without fear of failure (Mann, 2005). Some authors state that effective lean leadership involves behaviors that foster participation and employee empowerment (Emiliani, 1998; Found & Harvey, 2007). Lean leaders do not solve problems themselves, but instead ask employees questions to encourage them to think problems through for themselves (Liker, 2004; Spear, 2004).

The third stage is about supporting daily kaizen and encouraging participation and engagement for improvement activities (Liker & Convis, 2011). The same aspect is emphasized by Spear (2004) and Found (2007), who state that the leader's role is to help workers understand the responsibility of improving their own operations and to provide necessary resources to enable the improvement work. A lean leader needs to develop an ability to be a facilitator who actively engages with employees and encourages them to contribute ideas and continuously learn (Mann, 2005). Since the workforce at Toyota is organized in teams, an important role of Lean leaders is to support teamwork (Found & Harvey, 2007; Liker & Convis, 2011).

Finally, the fourth stage implies creating True North vision, which can be described as the organization's philosophical objective and long-term improvement goals. Goals supporting the True North vision are set at all managerial levels and aligned to action and improvement initiatives (Flinchbaugh et al., 2008; Liker & Convis, 2011). Lean leadership needs to be supported by lean managerial practices and tools (Liker & Convis, 2011). Lean management system consists of four principal elements: leader standard work, visual controls, daily accountability processes, and discipline (Mann, 2005). Leader standard work specifies activities that appear as daily routine, e.g., gemba walk or review status of performance measures (Liker & Convis, 2011). Visual control is a system of signs, information displays, and work organizational tools that are designed to manage and control the processes and that provide immediate understanding of a situation or condition (Mann,

2005; Liker & Convis, 2011). The meetings usually have fixed times and durations and follow a standardized agenda. Finally, discipline is necessary to execute the first three elements as designed and intended (Mann, 2005).

2.4.2 Culture & Involvement

Henderson and Larco (2003) stated that it is virtually impossible for organizations using traditional manufacturing methodologies to compete successfully with lean organizations. Lean success, however, is largely dependent on the attainment of a lean culture (Achanga et al., 2006; Bernstein, 2005). Companies that utilize mass production systems, controlled by top-down management approaches, find that the change to a lean system is dependent on a significant shift in organizational culture. Emiliani (1998) emphasized that behaviors practiced over decades have resulted in strong inwardly-focused organizational cultures.

Hines (2004) stated that, while manufacturers have introduced lean techniques relatively easily, they still find it difficult to achieve the organizational culture and mindset that provides the foundation of lean. It is for this reason that the full impact of lean has not been realized in many cases. Additional research (Boyer, 1996; Tracey & Flinchbaugh, 2006) supported that the premise that lean system success is primarily dependent on actions taken, principles implemented, and organizational change, rather than on lean tool adoption. Bhasin and Burcher (2006) stated that the low rates of successful lean implementations confirms that failure in the use of the techniques was not a contributing factor. Failure to change the organizational culture, however, constituted the overriding cause of unsuccessful implementation of lean.

Murman (2002) stated to "cultural monuments" that are built on three or four mindsets within an organization, quite often at odds with lean thinking. These monuments include old strategies and rules that were once useful but now prevent most members of the organization from even questioning the status quo, despite seemingly obvious signs that current strategies are failing. Dismantling these non-physical monuments is imperative to attaining a lean culture.

Managing organizational culture is increasingly viewed as an important part of healthcare reform (Scott et al., 2003). Organizational culture is recognized as a critical aspect for implementation of lean and other quality systems. A positive and strong culture

can make an average individual perform and achieve brilliantly thus can impact on the employee's job performance. It also can improve in the productivity and enhance the organizational performance. Carney (2011) identified that organizational culture influence to deliver quality of care. Thus, hospital with the best workplace cultures had the highest patient satisfaction and loyalty.

Abdullah et al. (2008) emphasized that employee involvement is one of the important factors to drive the positive impact on quality improvement. This is because, employee behavior plays an important role on customer's perception of service quality. Moreover, educate and empower staff is one of the process improvements in healthcare sector by involving all employee in the process. High involvement works systems were associated with both greater employee satisfaction and lower patient service cost in 146 Veterans Health Administration centers. Besides that, increased in staff involvement were impact of increased job satisfaction, commitment, patient satisfaction and patient outcomes (Harmon et al., 2003).

2.4.3 Patient Pathway Integration

Vanhaecht et al. (2007) defined the term 'care pathway' or 'pathway' as follows: "A care pathway is a complex intervention for the mutual decision-making and organization of care processes for a well-defined group of patients during a well-defined period. Defining characteristics of care pathways include: an explicit statement of the goals and key elements of care based on evidence, best practice, and patients' expectations and their characteristics, the facilitation of the communication among the team members and with patients and families, the coordination of the care process by coordinating the roles and sequencing the activities of the multidisciplinary care team, the patients and their relatives, the documentation, monitoring, and evaluation of variances and outcomes, and the identification of the appropriate resources. The aim of a care pathway is to enhance the quality of care across the continuum by improving risk-adjusted patient outcomes, promoting patient safety, increasing patient satisfaction, and optimizing the use of resources".

The expression 'care pathway' is leading, not the words 'integrated care pathway', 'clinical pathway' or 'care street'. The term "integrated care pathway" is longer than necessary. Care pathways (as defined above) are per definition integrated. Fragmented care

pathways cannot exist. The term ‘clinical pathway’ is reserved for the path within a clinic, or a 24-hour department of a hospital. A care pathway is longer and includes outpatient department’s activities, discharge from the hospital and after-care. A transmural pathway or disease management pathway is even longer and also including the preliminary and the follow-up process in primary care or other care facility.

The concept of a care pathway is one of the concepts from the field of Health operations management described by Vissers and Beech as the analysis, design, planning and control of all the steps necessary to provide a service to a client (Vissers, 2005). They distinguish five levels of health operation management. Level 1 is a care plan for each individual patient (patient planning and protocol). Level 2 is the planning of care in care pathways (patient group planning and control). Level 3 is the capacity planning of professionals, equipment and space (resource planning and control). Level 4 is the planning of the number of patients to be treated and care activities to be carried out (patient volume planning and control) and level 5 is the long-term policy of the institution (strategic planning).

They emphasize the connection between these five levels. They point out the expected difficulties in introducing care pathways without taking into account any changes in scheduling systems for individual patients (level 1) and for example the capacity planning of the number of professionals and equipment (level 3). And if a pathway increases the number of patients entering the system, this will lead to decision on level 4 and 5.

2.4.4 Lean Process Maturity

A lean maturity model is a maturity model applied into the area of lean management. A lean maturity model has the intention to determine the position of a company in terms of implementing a lean culture in its organization. It is actually a guiding tool that helps to assess the current business situation against the basic lean principles as well as continuously following the degree of implementation over a period of time. Thus, in literature, lean maturity models are frequently called lean assessment tools.

Over the last years, companies implemented improvement techniques such as lean at a high extent. Hence, there was an explosion in the development of lean assessment tools in order to keep track of this lean evolution (Maasouman & Demirli, 2015). The most

comprehensive model of lean transition found in literature is called the lean enterprise self-assessment tool (LESAT). It is a lean maturity model that is developed by the Lean Aerospace Initiative (LAI) at the Massachusetts Institute of Technology. It mainly focusses on internal and external relations in the organization and on strategic lean implementation (Maasouman & Demirli, 2015). The LESAT model is a tool for organizations to self-assess lean maturity and its readiness to change. It is a simple, easy to use tool that is completed by enterprise leadership. It focusses on the lean characteristics and is aligned with the business performance planning. Goals are determined upfront are compared with the results of the lean assessment (Nightingale, 2005).

Hospitals have to deliver healthcare services to more people with higher quality and security and with fewer employees and economical resources (Curatolo, Lamouri, Huet, & Rieutord, 2014). In today's world, hospitals face a growing pressure in terms of service quality, patient's safety, efficiency, costs, waiting times, staff morale, and many more (Graban, 2011). These pressures come from both outside and inside stakeholders like the environment, government, stockholders, employees and patients. If hospitals keep on operating in the same way, pressure from these elements above will keep on increasing. This results in longer waiting times, reduction in quality through an increase in errors, higher costs, decrease in employee motivation and satisfaction and a decrease in customer satisfaction (Robinson, Radnor, Burgess, & Worthington, 2012).

Since every hospital continuously want to improve their performance, a series of tools, methodologies and models are implemented into the business. The lean management approach is a technique that is very effective at achieving productivity improvements in a relatively short time (Urban, 2015). With lean management, processes will streamline, employee satisfaction will increase, finances of the hospital will boost, and patient care will improve (Berczuk, 2008). That is why nowadays more and more hospitals implemented lean management into their business.

Therefore, maturity models can be used by hospitals to review the performance of lean management into their business. Maturity models are able to measure the degree of lean implementation, give feedback regarding the weak points in the healthcare system, suggest improvement techniques, and support for continuous improvement. Moreover, they can be used to compare different hospitals (Pöppelbuß & Röglinger, 2011).

Although many maturity models are developed for the healthcare sector, few lean maturity models exist that assess lean management in hospitals. A lot of projects are set up or are running at this time, but no profound publication is online yet. Since a lot of hospitals are implementing lean management into their business, a tool is needed that measures the maturity of lean instead of relying on subjective assumptions. That is why in this master dissertation, a lean maturity model is developed that will measure the degree of lean implementation in departments of hospitals. This model is a quick scan of lean maturity i.e. it doesn't assess lean management in all its aspects but only in the context of nurse problem-solving behavior.

2.5 Organizational Performance

TQM is often used as a multidimensional approach to measuring organizational performance, where both financial and non-financial measures assume equal importance (Jaafreh & Al-abedallat, 2012). Organizational performance is defined as the results document the relationship between what organizations do in terms of quality management practices and the results they achieve in several types of outcomes (MBNQA, 2006). It is defined as what the organization is achieving in relation to its planned performance (EFQM, 2010). In general, organizational performance comprises the actual output or results of an organization as measured against its intended outputs and involves the recurring activities to establish organizational goals, monitor progress toward the goals,

and make adjustments to achieve those goals more effectively and efficiently.

Typically, there are different methods to characterize various types of organizational performance. In balance scorecard, it is measured from four perspectives; financial, customers, internal business processes, learning and growth. In quality award models, it is measured with multiple dimensions such as product and service outcomes, financial and market outcomes, customer-focused outcomes, process effectiveness outcomes, workforce-focused outcomes, and leadership outcomes (MBNQA, 2006). While examining the relationship between quality practices and performance, many scholars used different performance types such as quality performance, operational and business performance, efficiency, effectiveness, customer satisfaction, organizational growth, and employee satisfaction (Sabell et al., 2014). In this study, two performance variables will be

used to measure organizational performances which are hospital effectiveness and job satisfaction.

2.5.1 Hospital Effectiveness

JCAHO (Joint Commission on Accreditation of Health care Organizations) put emphasis on performance assessment and investigative methodologies directed to improve patient health care outcomes and lead to improve the effectiveness. Performance improvement in health care was defined by JCI as: "Performance Improvement is continuous change to improve process through measuring services, identifying areas for improvement and developing improvements through multidisciplinary teamwork. The goal of performance improvement is to support a collaborative approach to patient centered care that focuses on improving safety, performance, patient outcomes and identifying and promoting best practices." (JCI, 2013).

Hospitals have tried several approaches or modules for quality improvement to document their effectiveness. In these days, hospitals work to fulfill several goals which are directed towards serving customers effectively and efficiently (Minvielle et al. 2008). Hospital performance obviously shows the output of the health care services which are reflected obviously and effectively on the patients. Performance measurement is an important instrument for evaluating overall quality of health care service which should be carrying out in every unit and department of the hospital as it reflects the overall quality (Duggirala et al., 2008).

A variety of international organizations, which evaluate National Health Care Systems, in addition offering certification and accreditation processes, measure the performance of health structures in different countries, taking into consideration three main quality dimensions: effectiveness, efficiency and customer satisfaction (Kaplan & Roberts, 2001). Deborah (2010) stressed that Health Care managers impact hospital performance to create stability within the organizational structure, to develop, implement, and sustain an environment of growth and competitive advantage. Moreover, Shipton et al. (2008), stated that "Organizational leaders shape effective quality performance outcomes by determining a vision and developing a commitment by health care individuals and teams which influences positive performance on quality activities set by the health care organization".

Out-patients are the persons who are not hospitalized overnight but who visit a hospital, clinic or associated facility for diagnosis or treatment. Inpatients are the persons who visit a hospital to receive medical care, and stays there one or more nights while they are being treated. Operation is a medical procedure involving an incision with instruments which performs to repair damage or arrest disease in a living body. Bed occupancy rate is the percent of occupancy obtained by dividing the number of available beds during a period (Usman et al., 2015). It is the index of extent of hospital bed utilization. Average length of stay is the total number of patient days for an inpatient episode. In general, the greater number of these indicators, the higher the revenue stream for the hospital. But it is not always true for bed occupancy rate. High bed occupancy rate can be a sign of efficient care but they can also have negative consequences for patient safety (Usman et al., 2015). They argued that hospitals with average bed occupancy rates between 80% to 85% is ideal for good quality of patient care and those above 85% can expect to have regular bed shortages, period bed crisis and increased numbers of healthcare acquired infections.

2.5.2 Employee Satisfaction

"Satisfaction refers to the level of fulfillment of one's needs, wants and desire. Satisfaction depends basically upon what an individual wants from the world, and what he gets" (Nancy, 1997). Employee satisfaction is a measure of how happy workers are with their job and working environment. It is sure that there may be many factors affecting the organizational effectiveness and one of them is the employee satisfaction. Effective organizations should have a culture that encourages the employee satisfaction. (Bhatti & Qureshi, 2007). Employees are more loyal and productive when they are satisfied (Hunter & Tietyen, 1997), and these satisfied employees affect the customer satisfaction and organizational productivity.

There is no limit for the employees to reach the full satisfaction and it may vary from employee to employee. Sometimes they need to change their behaviors in order to execute their duties more effectively to gain greater job satisfaction (Miller, 2006). Having good relationships with the colleagues, high salary, good working conditions, training and education opportunities, career developments or any other benefits may be related with the increasing of employee satisfaction.

Employee satisfaction is the terminology used to describe whether employees are happy, contended and fulfilling their desires and needs at work. Many measures support that employee satisfaction is a factor in employee motivation, employee goal achievement and positive employee morale in the work place. Cranny, Smith & Stone (1992) defined employee satisfaction as the combination of affective reactions to the differential perceptions of what they want to receive compared with they actually receive. The employee satisfaction may be described as how pleased an employee is with his or her position of employment. Employee satisfaction is a comprehensive term that comprises job satisfaction of employees and their satisfaction overall with companies' policies, company environment etc. (Moyes et al., 2008).

2.6 The Relationship Between Total Quality Management, Lean Management and Organizational Performance

TQM practices focus on developing people's skills and capacities through the engagement of employees in several kinds of training programs (Jones & Grimshaw, 2012), which provides the organization with skillful salesforce, and, skillful marketing team in general (Jones & Grimshaw, 2012). In addition, emphasizing TQM on managing process and continuous improvement in all organizational aspects help to improve the process of making marketing decision, pricing, promotion activities, distribution. To this end, the data related to improving the processes along with the previous success and failure stories have been recorded and reported to the relevant section (Mohammed et al., 2012). Suppliers are one of the success factors especially for manufacturing companies. Therefore, establishing good relationship with the suppliers is one of the principles that TQM asserts on. This kind of relationship provides the necessary knowledge that helps to make right purchasing decision, develop the negotiation skills of the marketing team, and enhance the database with knowledge that relate to the suppliers in the industrial market. According to the previous discussion is a positive relationship between TQM practices and lean manufacturing practices.

Juran (1998) stated that TQM is the fundamental pillars for implementing Lean production practices. TQM has become an umbrella for a variety of concepts, methods and production tools. Lean production is a method that promotes waste reduction and enhances business performance. Thus, Lean production lead to better operational performance, such

as lower inventory, higher quality and shorter process time, which in turn, will improve financial performance (Hofer et.al., 2012). However, the production process should be stable and predictable to ensure no interruption at production line, thus, enforcement of TQM is a first step before implementing lean production (Besterfield, 2004). TQM practices is positively correlated with lean production.

Habusa (2011) conducted that "TQM implementation and its impact on organizational performance in developing countries: a case study on Libya". He examined the impact of TQM implementation on overall company's performance. In his study, six quality management practices such as top management commitment, customer focus, people management, process management, supplier quality management and continuous improvement are used to measure financial and operational performance including customer satisfaction, employee morale, defects as a percentage of production volume, sales growth, profit improvement, export growth and production performance improvement. He concluded that each quality management element was correlated with at least one of the nine performance improvements. Moreover, the results of his regression analysis show that a positive relationship between TQM elements and organizational performance measures is evident.

Sabell et al. (2014) analyzed that "Quality management practices and their relationship to organizational performance". Correlations and regression analyses were used to examine the extent of TQM practices implemented in Palestinian hospitals and their relationship to organizational performance using the MBNQA criteria (leadership, strategic planning, customer focus, employee focus, information and analysis, process management and performance results). He concluded that TQM constructs used in his study are positively related to hospital performance and for the most part the relationship was significant; they were capable of explaining a significant portion of variance in performance.

Aiffa et al. (2013) analyzed that "Lean Healthcare Practice and Healthcare Performance in Malaysian Healthcare Industry". He attempted to review and proposed structural relationship model of lean healthcare practices and a healthcare performance. In his study, four lean management practices such as leadership, employee involvement organizational culture and customer focus are used to measure organizational performance such as financial performance, customer satisfaction and employee performance. He concluded that lean management practice can help to upgrade the service. Lean

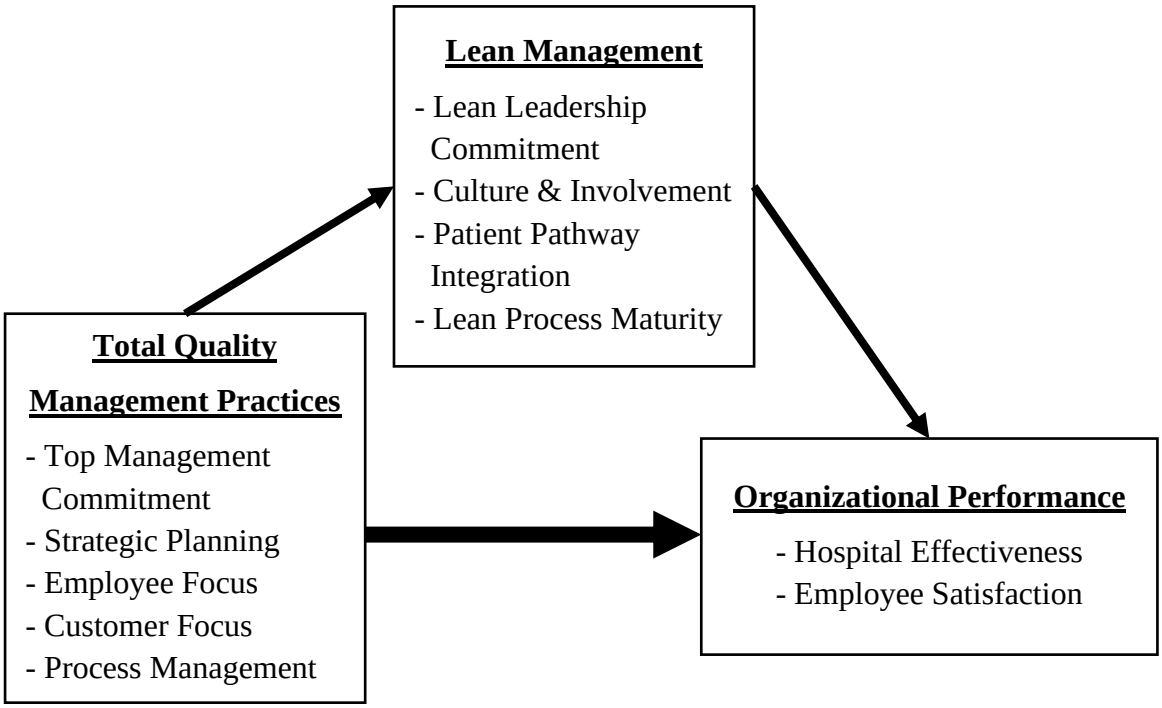
management practice is the most important driver for the healthcare industry to improve their performance.

Punnakitikashem (2013) conducted that "The Impact of Lean Practices and Organizational Commitment on Operation Performance in Hospitals". He investigated lean practices and organizational commitment affecting operational performance in hospitals. In this study, the multiple regressions were conducted between lean practices (human resource management patient flow, total quality management, standardized work, organizational capital and social capital) as the independent variables, and the organizational performance as dependent variable. The result of this study showed that there was a significant relationship between lean practices and organizational performance.

2.7 Conceptual Framework of the Study

Conceptual framework in Figure (2.1) is developed to demonstrate the effect of total quality management practices and lean management on organizational performance of Thukha Kabar Hospital.

Figure (2.1) Conceptual Framework of the Study



Source: Own Compilation, 2019

The constructs and variables presented in the conceptual framework will be measured by 5-point Likert scale. Total quality management construct will be measured by

five independent variables: top management commitment, strategi planning, employee focus, customer focus and process management to be able to achieve better results by using those range of total quality management practices.

This study examines how these total quality management practices (independent variables) can affect the dependent variables, the organizational performance. It also examines how each independent variable can affect on hospital effectiveness such as responding patients quickly who come to the hospital with certain medical emergencies, providing enough nurse-to-patient staffing ratio, and employee satisfaction such as satisfying the job for improving the employees' performance or working proudly for the hospital.

Lean management is measured as a mediating factor by constructing four variables: lean leadership commitment, culture and involvement, patient pathway integration and lean process maturity. This study examines mediating effect of lean management between total quality management practices and organizational performance.

CHAPTER 3

TOTAL QUALITY MANAGEMENT PRACTICES AND LEAN MANAGEMENT OF THUKHA KABAR HOSPITAL

This chapter discusses about profile of Thukha Kabar Hospital, the nature of the hospital, organizational structure, profile of respondents, total quality management practices and lean management of the hospital.

3.1 Profile of Thukha Kabar Hospital

Thukha Kabar Hospital is suituatd in a compound of 5100 square feet wide, No.(615/E), Pyay Road, Kamaryut Township, Yangon. It is composed of 255 feet x 24 feet wide three stories R.C building and 63 feet x 26 feet four stories building. It is a 100 bedded hospital established since 5th May, 2001. Thukha Kabar Hospital provided all the specialties such as general medicine, general surgery, Obstetrics and Gynecology, Orthopedic, Renal Unit, Ear Nose Throat and Neurology. Those specialties are operated by international reorganized degree holding doctors.

Thukha Kabar Hospital composed of three main departments. There are:

(a) Clinical Department
(b) Human Resource Department
(c) Finance Department.

The vision of Thukha Kabar Hospital is to obtain the fulfillment of the desire of all patient by providing the best healthcare services thereby becoming an international standard Hospital in Myanmar.

The mission of Thukha Kabar Hospital is to provide the best and complete health care services together with the partnership development of hospital, medical professional doctors and inclusive of all staffs.

3.1.1 Clinical Department

Clinical Department composed of 11 sub-departments. they are out-patient department, emergency department, laboratory department, pharmacy department, haemodialysis department, endoscopy department, intensive care unit, imaging department, in-patient department, operation theatre and physiotherapy and rehabilitation department.

(a) Out-Patient Department (O.P.D)

It is situated at the entrance of the compound of the hospital, 65 feet x 32 feet R.C building composed of 12-patient examination rooms for the specialist concern. Laboratory and Pharmacy departments also attached for the convenience of patient's investigations and treatments. There are clean and sterile room for surgical dressing and injection of medicine.

(b) Emergency Department

Emergency department is arranged with skillful experienced medical officer providing them with emergency lifesaving machine such as Defibrilator, Neubliser cut down tray & instruments, suction machine, ECG and all necessary emergency drugs.

(c) Laboratory Department

Laboratory department is 30 feet x 15 feet wide, installed with modernized machines equipment and test kits. Laboratory department is under supervision and management of a professor level pathologist. The equipment and machines use in this laboratory are: Humaclot (2) Billirabine, Ilyte, Backman coulter, Humalyser 3500, Vitros DT 60 II Chemistry and Humareader single.

(d) Pharmacy Department

Pharmacy department is attached to the out-patient department providing over 4,000 variety of FDA approved up dated medicines. It is managed by a well experienced medical graduate doctor and all the drugs selling workers are qualitied holding of Bachelor Degree of Pharmacy.

(e) Haemodialysis Department

Haemodialysis department was established in Thukha Kabar Hospital under supervision of Renal Physicians and provided with six haemodialysis machines operated by trained quality medical graduate. Haemodialysis allow survival with quality of life acceptable for living of reasonable period.

(f) Endoscopy Department

By doing Endoscopy examination by Gastro intestinal Physcians and Surgeon, the condition of G.I can be seen as it is and innovative treatments can be done at the same time to obtain early diagnosis and prompt treatments. Thukha Kabar Hospital provided good quality Endoscopy machine and quality gastroenterologist.

(g) Intensive Care Unit (I.C.U)

Intensive Care Unit staffs are well experienced and skillful for all critically illed patients. They have finished training for all lifesaving skill and can manipulate all the machines such monitors, infusion pumps, syringe pumps, ventilator, respirators and defibrillator.

(h) Imaging Department

For imaging Diagnosis to obtain clearer and more precise image, the modernize and computerized machines such as 500 mA Digital X-Ray Machine, 4D Ultrasound Machine, Echo Cardiac Machine and Stress Test Machine, ECG are provided.

(i) In Patient Department (Ward)

There are 100 single rooms, well ventilated with air-condition, bathroom attached providing with 24 hours satellite T.V, telephone and refrigerator.

(j) Operation Theatre

There are two operation theater measuring 23 feet x 16 feet for theatre no:1 and 17 feet x15 feet for theatre no:2 fully sterilized by fumigation in every six months, equipped with Drager and space lab anaesthetic machine, modern operation table with spot light. Other essential machines such as Monitors, Diathermy, Suction Machine, Syringe pumps, Infusion pumps, Oxygen cylinders respirator, heart lungs machine are also provided.

(k) Physiotherapy and Rehabilitation Department

Thukha Kabar Hospital provides a physical Medicine Department under supervision of a famous Physical Medicine Specialist and Physiotherapist for those patients who need physiotherapy rehabilitation and for those who are suffering chronic pain and disable. It arranges a private room fully equip with the latest modernize machines.

3.1.2 Human Resource Department

Human Resource Department looks for qualified skillful and experienced disciplinary services provider staff such as qualified doctors, well trained nurses and nurse aids, paramedical technicians, medical co-workers, technician such as electrician, securities, civil engineer carpenters and etc.

Human Resource Departments select outstanding workers and give incentives, bonus, promotion, on the other side Human Resource take action for the workers disobedient to the rules and discipline.

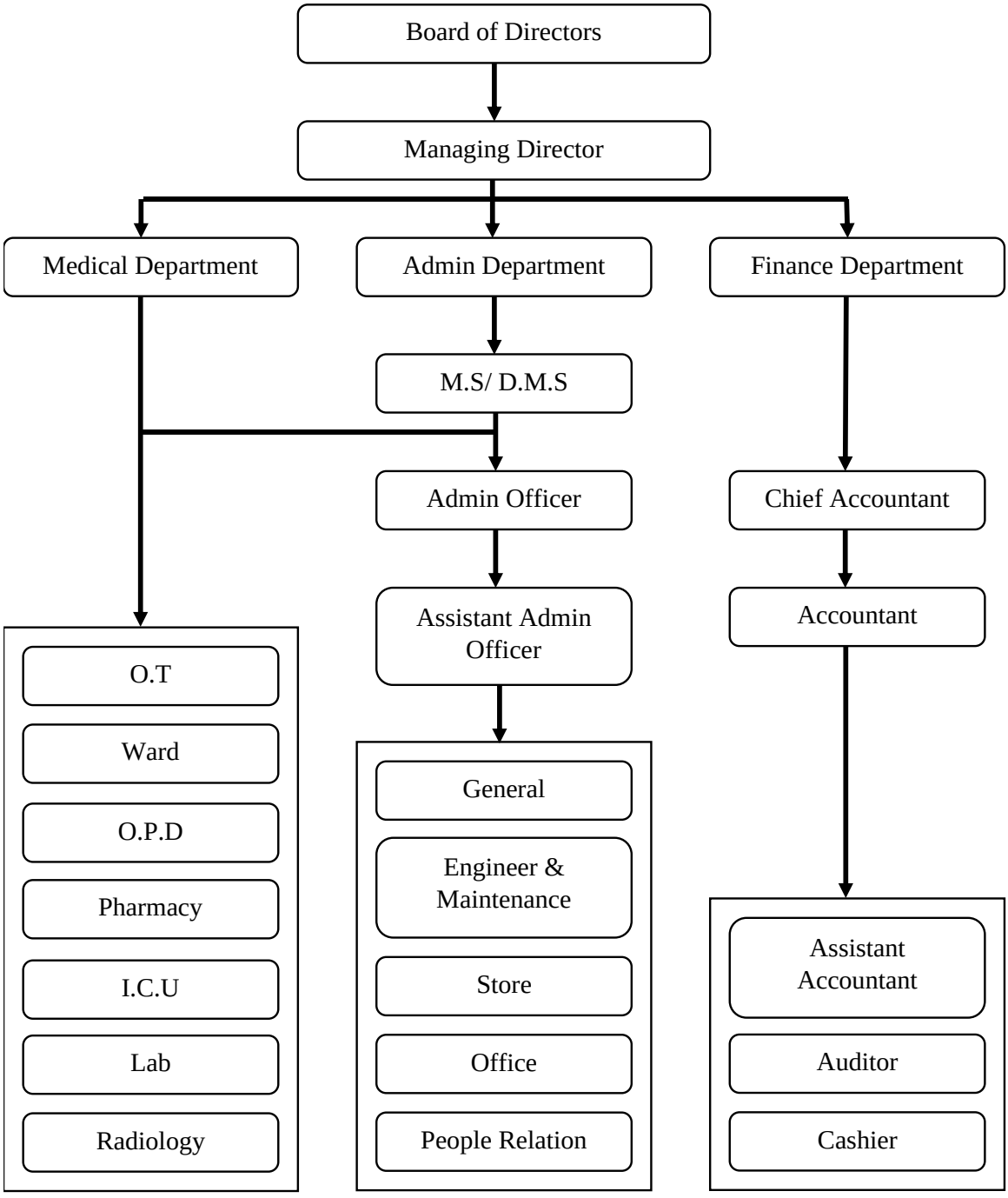
3.1.3 Finance Department

Finance and accounting Department is sole by responsible for financing activities and auditing of hospital incomes and expenditure. A chief accountant leads the department by support of assistant accountants, auditors and cashiers.

3.2 Organizational Structure of Thukha Kabar Hospital

Thukha Kabar Hospital has the management team including board of directors and managing director. Under the management team, there are three main departments such as clinical department, human resource department and finance department. Figure (3.1) shows the organizational structure of Thukha Kabar Hospital.

Figure (3.1) Organizational Structure of Thukha Kabar Hospital



Source: Thukha Kabar Hospital, 2019

In Thukha Kabar Hospital, total number of staff is 312. They are classified into medical staffs and non-medical staffs according to the nature of their tasks. Generally, medical staffs are defined as those who give medical treatment and care directly to patients such as doctors, nurses, pharmacists, pharmacy staff, technologists and physiotherapist. The total number of staffs are shown in Table (3.1) those are ranked according to their position.

Table (3.1) Number of Staffs in Thukha Kabar Hospital

No.	Description	Number of Staff	Percentage (%)
	Medical Staffs		
1.	Doctor	30	9.62
2.	Nurse	132	42.31
3.	Pharmacist	21	6.73
4.	Technologist (Laboratory)	11	3.53
5.	Technologist (Imaging)	9	2.88
6.	Physiotherapist	3	0.96
	Non-Medical Staffs		
7.	Top Management	3	0.96
8.	Admin	67	21.47
9.	Customer Service	18	5.77
10.	Finance	18	5.77
	Total	**312**	**100**

Source: Survey Data, 2019

Non-medical staffs are defined as those who give services other than the patients, examples like top management, customer service including receptionist and cashier, finance and admin staff including information and technology, maintenance and engineering, hospital service assistant, housekeeper, driver and canteen staff. Among the workforce, the number of medical staff is 206 and 66.03% of total staff. The rest is non-medical staff which is 106 and 33.97% of total staff.

3.3 Profile of Respondents

In this study, 173 respondents were surveyed. Five categories with respect to demographic factors of respondents such as gender, age, education level, occupation and year of service were analyzed. The demographic factors of respondents are shown in Table (3.2).

Table (3.2) Demographic Profile of Respondents

No.	Particular	No. of Respondents	Percentage (%)
	Total	173	100
1.	**Gender**		
	Male	62	35.84
	Female	111	64.16
2.	**Age**		
	Below 21 years	9	5.20
	21-30 years	68	39.31
	31-40 years	69	39.88
	41-50 years	23	13.29
	Above 50 years	4	2.32
3.	**Education**		
	Bachelor Degree	95	54.91
	Master Degree	12	6.94
	PhD	10	5.78
	Other	56	32.37
4.	**Occupation**		
	Doctor	25	14.46
	Nurse	65	37.57
	Pharmacist	15	8.67
	Technologist	20	11.56
	Receptionist	11	6.36
	Office Staff	14	8.09
	Others	23	13.29
5.	**Years of Service**		
	Under 1 year	18	10.40
	1 – 3 years	65	37.57
	3 – 5 years	53	30.64
	Above 5 years	37	21.39

Source: Survey Data, 2019.

According to the survey data, the most respondents are female, most are between 31 to 40 years of age, the education level of most are graduates with bachelor degree, the

occupation of most are nurses and most of the respondents have 1 to 3 years of service in the hospital.

According to the gender of respondents, a lower participation of male was noted and represented only 35.84% of total respondents and major participation of respondents are female having 111 out of 173 respondents. In healthcare organizations, the ratio of female in private hospitals is higher than the ratio of male. Hence, female occupy a much larger proportion than male in Thukha Kabar Hospital. For that reason, participation of female was higher than the participation of male in the survey.

In age factor, the major age group of respondents was between 31 to 40 years old and it represents 39.88% of total respondents. 9 respondents are below 21 years, 69 respondents are between 21 and 30 years, 33 respondents are between 31 and 40 years, 23 respondents are between 41 and 50 years, and 4 respondents are above 50 years. This means that the hospital has many experienced workers who are between 31 years and 40 years old.

In educational level, most of the respondents in the survey finished bachelor degree course. According to the survey data, 95 respondents had bachelor degree, 12 respondents had master degree, 10 respondents had PhD and others are 56 respondents. This means that most of the respondents are educated to work in a hospital field and have medical knowledge.

According the occupation from the table, most of the respondents in the survey are nurses. According to the survey data, 125 respondents are medical professionals including doctor, nurse, pharmacist, pharmacy staff, technologist, physiotherapist, ant and 48 respondents are non-medical professionals including top management, customer service, admin and finance. It indicates that the hospital has enough nurses to provide service to the patients.

With relation to the year of service in the hospital, it was found that most of the respondents in the survey having 1 to 3 years of working experience. 18 respondents have under 1 year of working experience, 65 respondents have between 1 to 3 years of working experience, 53 respondents have between 3 to 5 years of working experience and 37 respondents have above 5 years of working experience in the hospital. As the result, most of the employees are well-experienced workers that can perform well for the hospital.

3.4 Total Quality Management Practices of Thukha Kabar Hospital

In this study, selected 173 numbers of employees in Thukha Kabar Hospital are surveyed. Linear regression is used. It is including how to relate the total quality management practices on the organizational performance of Thukha Kabar Hospital, in term of top management commitment, strategic planning, employee focus, customer focus, process management which are analyzed.

3.4.1 Top Management Commitment

Top management commitment is a crucial one in total quality management practices. Respondents are required to respond 5 statements about how top management handle hospital and about their responsibility and accountability. The result shown in Table (3.3) based on survey findings.

Table (3.3) Hospital staff Perception towards Top Management Commitment

No.	Items	Mean	SD
1.	Emphasizing the importance of patient care	3.82	0.95
2.	Providing necessary resources towards efforts to improve quality	3.66	0.88
3.	Holding regular meetings to discuss quality issues	3.58	0.99
4.	Involving actively in establishing and communicating visions, missions and values for quality service	3.64	0.96
5.	Taking both responsibility and accountability for overall performance	3.71	0.95
Overall Mean		3.68	

Source: Survey Data, 2019

According to above data, the overall mean value is 3.68 which is higher than the cut off mean value 3 which indicates the respondents feel accepted about top management commitment. The highest mean is 3.82 and the lowest is 3.58, and most are above 3.5. The highest mean is 3.82 which indicates that top management emphasizes the importance of patient care showing that top management has a huge interest in every patient and they have great effort to improve the patient's care. The second highest mean is 3.71 in which top management takes full responsibility and accountability for overall performance of the hospital, patients and employees. Respondents' perception about the top management's

support “Providing necessary resources towards efforts to improve quality” and “Involving actively in establishing and communicating visions, missions and values for quality service” are 3.66 and 3.64 respectively which are within neutral range under top management category. This means that top management support the need of hospital such as manpower, supplement, vision, mission, all of the employees’ duties to reach the target of good service quality. Respondents agree about the top management commitment to quality such as “Holding regular meetings to discuss quality issues” showing that hospital’s leadership from top management is quality oriented as a priority over profit oriented which results as mean value 3.58. As the overall result, top management always emphasize on the importance of patients’ care and they take both responsibility and accountability for the overall performance. But providing necessary resources towards efforts to improve quality is 3.66 only and that need to improve quality of resources because resources are support to quality of services.

3.4.2 Strategic Planning

Strategic planning is one of the important quality management practices. respondents are required to respond 5 statements about how to use strategic plan important and to achieving the strategic goals, objectives successfully. The results are shown in Table (3.4) based on survey findings.

Table (3.4) Hospital Staff Perception towards Strategic Planning

No.	Items	Mean	SD
1.	Inspecting the product quality and process in the hospital	3.64	0.91
2.	Using quality tools to plan, control and improvement of processes	3.54	0.96
3.	Making decision for the improvement of process after collecting and reviewing the data	3.38	1.03
4.	Identifying performance measures for gauging success in achieving individual strategic goals and objectives	3.36	0.96
5.	Achieving the strategic goals, objectives and plans successfully	3.64	0.91
Overall Mean		3.51	

Source: Survey Data, 2019

Table (3.4) reports that most of the respondents agree with the statement of which strategic planning has effect on organizational performance and their mean score is more than 3. The highest mean value is 3.64 and lowest value 3.36. The highest mean value 3.64 indicates that the hospital inspects the product quality and process in the hospital and achieves the strategic goals, objectives and plans successfully. According to the mean score 3.54, the organization employs tools of quality to plan, control and improvement of processes. The lowest mean is for "Identifying performance measures for gauging success in achieving individual strategic goals and objectives" showing 3.36 mean score. The organizational management collects data first and then make the strategic decisions for improvement of standard operation procedure which results in the mean value 3.38. The importance of strategic planning in healthcare increases an organization's productivity. Therefore, the strategic planning is one of the important quality management practices to improve the organizational performance. As the overall result, the hospital always inspects the product quality and process with the strategic goals and plans.

3.4.3 Employee Focus

Employee focus is one of the most important factors in quality management practices because quality of service and customer satisfaction highly depend on the employees' working manners. This particular element addresses the human resource effectiveness in the organization which is analyzed by addressing survey to 173 respondents with five different questions. The results from analysis on employee focus are shown in Table (3.5).

Table (3.5) Hospital Staff Perception towards Employee Focus

No.	Items	Mean	SD
1.	Providing a well-developed staff performance management system to reward high performance	3.63	0.971
2.	Motivating and developing the staff's potential	3.59	0.990
3.	Providing training programs	3.55	0.973
4.	Emphasizing on staff and making sure their workplace has occupational health and safety	3.56	1.000
5.	Measuring employee satisfaction regularly	3.69	0.970
Overall Mean		3.60	

Source: Survey Data, 2019

As shown in Table (3.5), the highest mean is 3.69 and the lowest mean is 3.55. The overall mean value is above 3, which is the cut off mean value. It means that the respondents feel accepted about employee focus. It indicates that most of the respondents moderately perceive about the hospital's employee management. The highest mean "Measuring employee satisfaction regularly" is 3.69 in which the hospital gathers information on a variety of work-related issues, such as job satisfaction, compensation/benefits, company policies, retention and work hours from employees. The second highest mean 3.63 indicates that the hospital provides a well-developed staff performance management system to reward high performance which shows organization fairly emphasizes in performance management system especially recognition and rewarding for the employee's best efforts. The hospital's management motivates staffs and fully develops their potential as its mean is 3.59. Organization emphasizes on staff and make sure their workplace has occupational health and safety which indicates 3.56 mean score. The organization provides training programs to its staffs that their jobs need more is lowest score in employee focus category. As the overall result, the hospital needs to provide training and development program to employee more and the development program is critical part of the employee motivation and satisfaction. Employee satisfaction is important to improve employee engagement and quality of services. Otherwise, the hospital always measures the employee satisfaction regularly with a well-developed performance measure system. Since hospital business is service organization, quality of service highly depends on the service provider so that employee focus is one of the most important total quality management practices to get quality performance and organization success.

3.4.4 Customer Focus

Customer focus is one of the necessary one in quality management practices. Having a customer focus is usually a strong contributor to the overall success of a business organization. In this study, customer focus is analyzed with five different statements and the results are shown in Table (3.6).

Table (3.6) Hospital Staff Perception towards Customer Focus

No.	Items	Mean	SD
1.	Delivering the necessary products or services to meet patient expectations	3.84	0.932
2.	Identifying and solving patients' problems quickly	3.84	0.847
3.	Measuring the levels of patient's satisfaction and developing to maintain their satisfaction	3.85	0.900
4.	Identifying target customers, potential customers and market segments of health care	3.65	0.951
5.	Reviewing and responding patient feedback and suggestions to current procedures	3.66	0.920
Overall Mean		3.77	

Source: Survey Data, 2019

As shown in Table (3.6), according to the statements in customer focus, the overall mean value is higher than cut off mean value 3. The highest mean is 3.85 and lowest mean is 3.65. The organization measures the levels of patient's satisfaction and develops to maintain their satisfaction which indicates the mean value of 3.85. Within the staff perception of customer orientation, "Delivering the necessary products or services to meet patient expectations" showing that respondents have the second highest mean value of 3.84. The organization identifies and solves patients' problems quickly and exactly which also has second highest mean value. The organization identifies target customers, potential customers and market segments which has the lowest mean value in this category. The organization highly concerns the customer's suggestions and feedback about the hospital's service and procedure in which the mean value is 3.66. With customer-oriented culture, the organization has the competitive advantage over the business competitors by knowing and fulfilling the current and future customers' requirements. They take the reference from abord and learn new things to improve the overall performance of hospital and to create diversify. The overall result indicates that the hospital always emphasizes on the customers satisfaction and try to solve and maintain by meeting their needs and problems and also create new service system for the customer satisfaction.

3.4.5 Process Management

Regarding to the analysis on the effect of process management in Thukha Kabar Hospital, respondents are required to respond 5 statements about how to handle every process step by step and how process management effect on organizational performance in hospital. The results are shown in Table (3.7) based on survey finding.

Table (3.7) Hospital Staff Perception towards Process Management

No.	Items	Mean	SD
1.	Using new technology into related processes	3.75	0.89
2.	Putting the effective and efficient health care service in designing process	3.81	0.82
3.	Having standardized and documented operating procedures to support daily operations	3.85	0.88
4.	Regularly examining support processes to meet the health care service needs	3.88	0.93
5.	Trying to improve the healthcare care process from individual department	3.64	1.02
Overall Mean		3.78	

Source: Survey Data, 2019

According to the survey data, the highest mean value is 3.88, lowest mean value is 3.64, and the overall mean value is 3.78 which is higher than the cut off mean value 3. It indicates that the most of respondents agree process management of the hospital. The highest mean is for "Regularly examining support processes to meet the health care service needs" showing that the organization regularly examines supporting processes (e.g. purchase medicines and medical supplies, focus on operation case) to meet the important of healthcare service needs. The lowest mean value is concerned with "Trying to improve the healthcare care process from individual department". The organization has standardized and documented operating procedures to support daily operations that respondents have high level of perception in process control about their job descriptions and daily work because their mean score is 3.85. The organization addresses the effectiveness and efficiency factors of health care service (quality, safety, timeliness, cost effective, error free) in designing processes which indicates 3.81 mean score. Organization incorporates changing customer/ market requirements and new technology into related processes as it has 3.75 mean score. Most of the staffs in Thukha Kabar Hospital have high perception in

process management. They perceive that the hospital has systematic process management with step by step such as designing process, measuring or controlling process and improving process. The overall result indicates that the hospital support daily operations and processes to meet the necessary heath service needs.

3.4.6 Summary of Total Quality Management Practices

In this study, there are five dimensions to determine total quality management practices of Thukha Kabar Hospital such as top management commitment, Strategic planning, employee focus, customer focus and process management. The following table represents the summary of mean value of each value that affect organizational performance of Thukha Kabar Hospital.

Table (3.8) Summary of Total Quality Management Practices

No.	Total Quality Management Practices	Overall Mean
1.	Top Management Commitment	3.68
2.	Strategic Planning	3.51
3.	Employee Focus	3.60
4.	Customer Focus	3.77
5.	Process Management	3.78

Source: Survey Data, 2019

According to table, the results indicate that process management has the highest mean value and then followed by customer focus, top management commitment and employee focus. It means that the hospital emphasizes on the hospital's processes to meet the necessary customers' needs and services. Therefore, it can be assumed that process management has the highest effect on the hospital.

3.5 Lean Management of Thukha Kabar Hospital

In this study, the effect of lean management on organizational performance of Thukha Kabar Hospital, in term of lean leadership commitment, culture & involvement, patient pathway integration and lean process maturity which are analyzed.

3.5.1 Lean Leadership Commitment

Lean leadership commitment is one of the factors of Lean Management. It mainly focuses on commitment which includes commitment to the employees, commitment to the system of the hospital and commitment to making changes towards improvement of the whole hospital. Lean leadership commitment is required to have a lean environment where leaders understand the hospital objectives and establish strategic planning. It also needs leaders who can convince employees to have a thorough understanding of Lean Management. The results are shown in Table (3.9) based on survey finding.

Table (3.9) Hospital Staff Perception towards Lean Leadership Commitment

No.	Items	Mean	SD
1.	Sharing clear vision about the lean process to all departments	3.83	0.86
2.	Supporting to achieve cross-functional goals of lean process	3.65	0.89
3.	Measuring the performance of the entire hospital towards lean management	3.31	1.13
4.	Setting the hospital objectives to be patient-centered	3.80	0.86
5.	Establishing a mechanism to transform hospital strategic objectives into actionable plans	3.49	1.00
Overall Mean		3.62	

Source: Survey Data, 2019

According to the Table (4.9), the highest mean is 3.83 and lowest mean is 3.31, and most are above on 3 which is higher than cut off mean value. It indicates that most of the respondents agree lean leadership of hospital. The highest mean indicates that senior management shares clear vision about the lean process to all departments showing that senior management shares with all the departments clear vision about the meaning of process perfection. According to mean value 3.65, hospital management supports to achieve cross-functional goals of lean process. Hospital management establishes measurement to reflect the performance of the entire hospital towards achieving hospital strategic objectives as shown in 3.31 mean score which is the lowest value. Senior management establishes a mechanism to transform hospital strategic objectives into actionable plans which indicates 3.49 mean score. The mean value of 3.80 explains that senior management sets the hospital objective to be patient centered (productivity, quality,

cost, safety). But, as per result, measuring the performance of the entire hospital towards lean management is lowest score and that need to improve because the result of performance measurement is core factors to make important decision of the hospital. The overall mean indicates that the hospital shares lean processes to all departments so that the hospital sets its objectives to be patient centered with lean process management.

3.5.2 Culture & Involvement

It is important to understand lean as a business practice to get better effective and efficient waste elimination and cost reduction. It is necessary to encourage the employees of Thukha Kabar Hospital in participating the lean process of the hospital through creating trust and fulfillment. The hospital management gets improved by collecting the ideas or suggestion of employees. In order to gain better insight of employees' culture and involvement, the hospital staff were asked their perception towards the hospital's culture and involvement through 5 likert scale questions.

Table (3.10) Hospital Staff Perception towards Culture & Involvement

No.	Items	Mean	SD
1.	Understanding lean as a business practice which creates value through creating trust & fulfillment	3.77	0.82
2.	Understanding that lean is more than waste elimination and cost reduction	3.79	0.86
3.	Regularly identifying areas for improvement of lean management	3.75	0.95
4.	Encouraging employees to participate in lean process	3.87	0.76
5.	Delivering the ideas or suggestions of employees for improvement to hospital management	3.68	0.95
Overall Mean		3.77	

Source: Survey Data, 2019

As shown in Table (3.10), the respondents agree with all statements in culture & involvement because the overall mean value is higher the cut off mean value 3. It means that the respondents feel accepted on culture & involvement. The highest mean is 3.87 and lowest mean is 3.68. Within the staff perception of culture & involvement, the hospital encourages employees to participate in lean process showing that respondents have the

highest mean value of 3.87, followed by the mean value of 3.79 which indicates that the hospital understands that lean is more than waste elimination and cost reduction. Hospital's staffs have enough knowledge to understand lean business practices which creates value through creating trust & fulfillment and its mean value is 3.77. According to the mean value 3.75, it indicates that hospital's staffs agree with the statement of they meet regularly identify areas for improvement of lean management. Hospital's staff delivers the ideas or suggestions of employees for improvement to hospital management which has the lowest mean value in this category. Most of the employee of hospital are involved in the procedure and process of the hospital and they also have mutual trust and fulfill the requirement of each other. The overall result indicates the hospital encourages its employees to participate in lean process and provide them to understand lean processes as a business practice.

3.5.3 Patient Pathway Integration

Effective and efficient patient pathway integration is one of the important factors in creating the effective lean management process. To form the comprehensive patient pathway integration, it is needed to connect all the processes by standardizing them. Therefore, the data were collected from the hospital staff whether the hospital provides enough resources or not, whether the hospital provide various types of services through 5 likert scale questions. The results are shown in the following table.

Table (3.11) Hospital Staff Perception towards Patient Pathway Integration

No.	Items	Mean	SD
1.	Providing hospital resources such as staff, supplies and equipment to patient's care	3.80	0.89
2.	Connecting all consecutive processes directly within patients' pathway	3.63	0.96
3.	Standardizing to eliminate forms of waste	3.61	0.91
4.	Forming main hospital pathways based on various patient condition and type of service needed	3.82	0.88
5.	Developing the integrated main pathways	3.33	1.32
Overall Mean		3.64	

Source: Survey Data, 2019

The result shows that patient pathway integration of lean management has positive influence on organizational performance of Thukha Kabar Hospital because the overall mean score is 3.64 which is above the neutral score 3. The highest mean score is 3.82 which states that main hospital pathways form based on various patient condition and type of service needed. The second highest mean value is that hospital provides enough resources such as staff, supplies and equipment to patient's care with mean score 3.80. And also, all consecutive processes are directly connecting within patients' pathway and patient pathways are standardized to eliminate forms of waste with the mean scores 3.63 and 3.61 respectively. The lowest mean score is 3.33 which organization coordinate other hospital departments with to develop the integrated main pathways of hospital. As the overall result, the hospital forms main pathways according to the patient condition and various services are meet with patient requirement. In the future, they need by providing enough resources such as staff, supplies and equipment because technologies are improving nowadays and other competitors are investing in the new technologies and services to improve service. On the other hand, foreign investors are investing more in health care industry.

3.5.4 Lean Process Maturity

It is necessary to define the sequence of steps, start to end points to form the integrated lean process. The lean management process can be developed by designing and updating the staff training, doing plan-do-check-act methods. To get better understand of lean process maturity of Thukha Kabar Hospital, the hospital staffs were asked their perception towards the process standards of lean management through the following questions. The results are shown in Table (3.12).

Table (3.12) Hospital Staff Perception towards Lean process Maturity

No.	Items	Mean	SD
1.	Clearly defining start to end points of all processes	3.87	0.94
2.	Clearly defining sequence of steps	3.60	0.92
3.	Designing and updating staff trainings	3.80	0.90
4.	Developing the new process standards or updating the existing ones	3.67	0.98
5.	Doing Plan-Do-Check-Act method as change of process standards	3.51	1.14
Overall Mean		3.69	

Source: Survey Data, 2019

According to the Table (3.12), the overall mean score is 3.69 which means that most of the respondents have the positive perception about lean process maturity of Thukha Kabar Hospital. The highest mean value is 3.87 which indicates that all processes related lean practices are clearly defined form start to end point. The second highest mean score of "Designing and updating staff trainings" is 3.80 which indicates that staff trainings are designed and updated according to the process performance standards of hospital. According to the mean value 3.67, it indicates that new standardized processes are developed or existing ones are updated as soon as new forms of waste within the hospital. and followed by the mean value that all processes have clearly defined sequence of steps which must followed to achieve desired outcomes which scores the mean value 3.60. But respondents have uncertainty about change of process standards is done by Plan-Do-Check-Act method because its mean value is 3.51 which is lowest mean value. The overall result indicates that the hospital defines all the processes from the start to end clearly by providing updated staff trainings. As the health care service organization, the service standard of employee is more important for the patient and the hospital is investing new technologies and systems to improve service standard. Therefore, hospital need to improve the skills and quality of employee and to serve to the patient with best service.

3.5.5 Summary of Lean Management

In this study, there are four dimensions to determine lean management of Thukha Kabar Hospital such as lean leadership commitment, culture & involvement, patient pathway integration and lean process maturity. The following table represents the summary

of mean value of each value that affect organizational performance of Thukha Kabar Hospital.

Table (3.13) Summary of Lean Management

No.	Lean Management	Overall Mean
1.	Lean leadership Commitment	3.62
2.	Culture & Involvement	3.77
3.	Patient Pathway Integration	3.64
4.	Lean Process Maturity	3.69

Source: Survey Data, 2019

According to the table, the results indicate that culture & involvement has the highest mean value and then followed by lean process maturity and patient pathway integration. It means that the hospital emphasizes on the employees to involve in lean processes and provide them to understand lean as a business practice.

CHAPTER 4

ANALYSIS ON THE EFFECT OF TOTAL QUALITY MANAGEMENT PRACTICES ON ORGANIZATIONAL PERFORMANCE OF THUKHA KABAR HOSPITAL

In this study, the effect of total quality management (TQM) practices on the organizational performance of Thukha Kabar Hospital are analyzed. This chapter consists of the mean values of organizational performance. The final part of this chapter is summarized and evaluated relationship between total quality management and organizational performance which are stated as follows.

4.1 Organizational Performance of Thukha Kabar Hospital

In this study, the effect of total quality management practices on organizational performance of Thukha Kabar Hospital, in term of hospital effectiveness and employee satisfaction which are analyzed. Based on the survey result, the mean value and standard deviation of each factor is described in Table (4.11) and Table (4.2).

4.1.1 Hospital Effectiveness

In this study, the combination of five different survey questions are used to explore the level of hospital effectiveness. For measuring the strength of each of the indicators, Likert-type scale is used which is composed of five value levels (from 1 = strongly disagree to 5 = strongly agree). The result of survey on perception of respondents towards hospital effectiveness is shown in Table (4.1).

Table (4.1) Hospital Staff Perception towards Hospital Effectiveness

No.	Items	Mean	SD
1.	Increasing number of outpatients and inpatients in the hospital	3.86	0.88
2.	Increasing number of operations (OT case) in the hospital	3.62	0.93
3.	Decreasing patients' average length of stay in the hospital	3.68	1.00
4.	Responding patients quickly who come to the hospital with certain medical emergencies	3.60	0.95
5.	Providing enough nurse-to-patient staffing ratio	3.85	0.81
Overall Mean		3.72	

Source: Survey Data, 2019

According to the analysis, the overall mean of perception of hospital effectiveness is 3.72 which is higher that the cut off mean value 3 which means that the level of hospital effectiveness is high. It indicates that the respondents' perception of hospital effectiveness is quite good. The highest mean is 3.86 that shows that the hospital has increasing number of outpatients and inpatients. Indeed, patient medical service is very important for a private hospital because customers don't choose to receive medical service for admission or other medical services unless they feel satisfaction about patient medical service. The second highest mean value is 3.85 which indicates that organization can provide enough nurse-to-patient staffing ratio. The mean value of "Decreasing patients' average length of stay in the hospital" is 3.68 and followed by mean value of number of operations (OT case) increases in the hospital which indicates the mean score 3.62. The lowest mean value is 3.6 which means that the hospital responds patients quickly who come to the hospital with certain medical emergencies. But the survey result shows that the organization also takes into account at the moderate level for these categories. The overall result indicates that the hospital has increasing number of in patients and out patients and has enough staffs and nurses to provide service to them.

4.1.2 Employee Satisfaction

In this study, the combination of five different survey questions are used to explore the level of employee satisfaction. For measuring the strength of each of the indicators, Likert-type scale is used which is composed of five value levels (from 1 = strongly disagree to 5 = strongly agree). The result of survey on employee satisfaction of respondents are shown in Table (4.2).

Table (4.2) Hospital Staff Perception towards Employee Satisfaction

No.	Items	Mean	SD
1.	Receiving the right amount of support and guidance from the supervisor to the employees	3.68	1.02
2.	Satisfying the chances for the employees' promotion	3.61	0.97
3.	Evaluating employees' performance standards based on a fair system	3.62	1.03
4.	Satisfying the job for improving the employees' performance	3.46	1.00
5.	Working proudly for the hospital	3.57	1.17
Overall Mean		3.59	

Source: Survey Data, 2019

According to analysis, the overall mean of job satisfaction is 3.59 which it indicates that employee satisfaction is upper neutral and the respondents are satisfied. The highest mean is 3.68 which means the employees receive the right amount of support and guidance from the supervisor to the employees. The second highest mean value is 3.62 which states that employees are satisfied with the performance evaluating system. Employees also satisfy the chances for their promotion which results as the mean value 3.61. They also think that they feel proud to work in Thukha Kabar Hospital because its mean value is 3.57. The lowest mean value 3.57 indicates that employees satisfy the job for improving the employees' performance but the lowest mean value can be acceptable because it is higher than cut off mean value 3. By looking at the overall mean value, employees are satisfied because they get support and guidance to improve their improvement and requirements and they get promotion chances very often based on performance evaluation system and they can get learning opportunities and career development from this system.

4.1.3 Summary of Organizational Performance

In this study, there are two dimensions to determine organizational performance of Thukha Kabar Hospital such as hospital effectiveness and employee satisfaction. The following table represents the summary of mean value of each value of organizational performance of Thukha Kabar Hospital.

Table (4.3) Summary of Organizational Performance

No.	Organizational Performance	Overall Mean
1.	Hospital Effectiveness	3.72
2.	Employee Satisfaction	3.59

Source: Survey Data, 2019

According to the Table (4.3), the results indicate that hospital effectiveness has higher mean value than employee satisfaction. It means that the hospital has more focus on the patients' care and their satisfaction by providing the most effective performance. Employee satisfaction's mean value is lower than hospital effectiveness's mean but it is higher than cut off mean value so it can be said that employees are still satisfied by working at the hospital.

4.2 Analysis on the Effect of Total Quality Management Practices on Organizational Performance

In order to analyze the relationship between total quality management practices and organizational performance, a regression model is developed and estimated. In this model, the dependent variable is organizational performance while the independent variable is total quality management.

4.2.1 Analysis on the Effect of Total Quality Management Practices on Hospital Effectiveness

Table (4.4) shows the results of the analysis on the effect of total quality management practices on hospital effectiveness which is one of the factors of organizational performance.

Table (4.4) Analysis on the Effect of Total Quality Management Practices on Hospital Effectiveness

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	VIF
	B	Std. Error	Beta			
(Constant)	0.151	0.166		0.914	0.362	
Top Management Commitment	-0.002	0.076	-0.002	-0.024	0.981	3.969
Strategic Planning	0.087	0.068	0.082	1.278	0.203	2.887
Employee Focus	0.264***	0.076	0.277	3.457	0.001	4.491
Customer Focus	0.231***	0.075	0.224	3.082	0.002	3.694
Process Management	0.383***	0.082	0.363	4.641	0.000	4.285
R	0.873					
R Square	0.761					
Adjected R Square	0.754					
F Value	106.532***					
Durbin-Watson	2.188					

a. Dependent Variable: Hospital Effectiveness

***, **, * significant at 1%, 5%, 10%

Source: Survey Data, 2019

According to Table (4.4), the specified model could explain very well about the variation of hospital effectiveness of the respondents since the value R Square is about 76.1 percent. The model can explain 75.4 percent about the variance of the independent variable and dependent variable because Adjective R Square is 0.754. The value of F test, the overall significance of the model, is highly significant at 1 percent level. This specified model can be said valid.

Three variables among five are strongly significant as stated by regression analysis table. Employee focus, customer focus and process planning have significant positive effect on hospital effectiveness. As it can see from Table (4.4), Employee focus, customer focus and process management are significant at 1% confident level. It shows that every one unit increase in employee focus helps hospital effectiveness to increase by 0.264, every one unit increase in customer focus helps hospital effectiveness to increase by 0.231 and every one unit increase in process management helps hospital effectiveness to increase by 0.383.

On the other hand, top management commitment and strategic planning are not significant at any significant level. It means that top management commitment and strategic

planning do not have impact on hospital effectiveness of organizational performance. Hospital effectiveness will not increase or decrease due to the top management commitment and strategic planning are provided by hospital.

To sum up, employee focus, customer focus and process management have positive significant effect on hospital effectiveness. All of the three factors have the most significant 1% value on hospital effectiveness. It indicates that the hospital can provide enough nurse-to-patient staffing ratio when the hospital motivates staff and delivers the necessary products and services to meet patient expectations.

4.2.2 Analysis on the Effect of Total Quality Management Practices on Employee Satisfaction

Table (4.5) shows the results of the analysis on the effect of total quality management practices on employee satisfaction which is one of the factors of organizational performance.

Table (4.5) Analysis on the Effect of Total Quality Management Practices on Employee Satisfaction

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	VIF
	B	Std. Error	Beta			
(Constant)	-0.400	0.169		-2.367	0.019	
Top Management Commitment	-0.067	0.078	-0.060	-0.860	0.391	3.969
Strategic Planning	0.259***	0.069	0.224	3.735	0.000	2.887
Employee Focus	0.317***	0.078	0.303	4.054	0.000	4.491
Customer Focus	0.395***	0.077	0.349	5.161	0.000	3.694
Process Management	0.184**	0.084	0.159	2.187	0.030	4.285
R	0.890					
R Square	0.793					
Adjected R Square	0.787					
F Value	127.795***					
Durbin-Watson	1.692					

a. Dependent Variable: Employee Satisfaction

***, **, * significant at 1%, 5%, 10%

Source: Survey Data, 2019

According to Table (4.5), the specified model could explain very well about the variation of employee satisfaction of the respondents since the value R Square is about 79.3 percent. The model can explain 78.7 percent about the variance of the independent variable and dependent variable because Adjective R Square is 0.787. The value of F test, the overall significance of the model, is highly significant at 1 percent level. This specified model can be said valid.

Three variables among five is strongly significant and the another one is significant as stated by regression analysis table. Therefore, strategic planning, employee focus, customer focus and process management have significant positive effect on employee. As it can see from Table (4.5), strategic planning, employee focus and customer focus are significant at 1% confident level. It shows that every one unit increase in strategic planning helps employee satisfaction to increase by 0.259, every one unit increase in employee focus helps employee satisfaction to increase by 0.317 and every one unit increase in customer focus helps employee satisfaction to increase by 0.395. Process management is significant at 5% confident level. It presents that every one unit increase in process management helps employee satisfaction to increase 0.184.

On the other hand, top management commitment is not significant at any significant level. It means that top management commitment doesn't have impact on employee satisfaction of organizational performance. Employee satisfaction will not increase or decrease due to the top management commitment is provided by hospital.

To sum up, four dimensions among five of TQM practices have positive significant effect on employee satisfaction. Among four dimensions, strategic planning, employee focus and customer focus have most significant effect on employee satisfaction. It means that employees are satisfied with the improvement of their performance because senior management focuses on employees with a fair system of performance evaluation system and give promotion chances.

4.3 Mediating Effect of Lean Management between Total Quality Management (TQM) Practices and Organizational Performance

To examine the mediating effect of lean management on relationship between total quality management (TQM) practices and organizational performance of Thukha Kabar Hospital. In this analysis, total effect is calculated as the sum value of direct effect and

indirect effect. Indirect effect is the outcome of multiplying the coefficient of TQM practices to lean management with the coefficient of lean management to stages of organizational performance which are hospital effectiveness and employee satisfaction. If total effect is greater than direct effect, it can be concluded that lean management is a mediator factor between TQM practices and stages of organizational performance.

Table (4.6) Path Coefficient of TQM Practices, Lean Management and Organizational Performance

	TQM Practices			
	Coefficient	**T-Value**	**R-Square**	**Sig.**
TQM Practices on Hospital Effectiveness	0.861***	22.16	0.742	0.000
TQM Practices on Lean Management	0.936***	34.885	0.877	0.000
Lean Management on Hospital Effectiveness	0.837***	20.007	0.701	0.000
TQM Practices on Employee Satisfaction	0.879***	24.123	0.772	0.000
TQM Practices on Lean Management	0.936***	34.885	0.877	0.000
Lean Management on Employee Satisfaction	0.816***	18.485	0.666	0.000

***, **, * significant at 1%, 5%, 10%

Source: Survey Data, 2019

TQM practices has a positively significant effect on hospital effectiveness at 1 percent level. As shown in Table (4.6), the power of the models to be explains the variation of hospital effectiveness is predicted by TQM practices as the value of R-square is about 74.1 percent. The positive sign reveals that a unit increase in TQM practices will lead to 0.861 unit increase in effect of hospital effectiveness while other independent variables are fixed. Therefore, the result of the study is indicated that TQM practice has positively significant effect on hospital effectiveness.

TQM practices has a positively significant effect on employee satisfaction at 1 percent level. As shown in Table (4.6), the power of the models to be explains the variation of employee satisfaction is predicted by TQM practices as the value of R-square is about 77.2 percent. The positive sign reveals that a unit increase in TQM practices will lead to 0.879 unit increase in effect of employee satisfaction while other independent variables are fixed. Therefore, the result of the study is indicated that TQM practice has positively significant effect on employee satisfaction.

TQM practices has a significant positive effect on lean management at 1 percent level. The variation of lean management is predicted by TQM practices as the value of R-square is about 87.7 percent. This result shows that a unit increase in TQM practices will lead to 0.936 unit increase while other independent variables are constant. It is clear that improving lean management is main determination of TQM practices.

4.3.1 Mediating Effect of Lean Management on Hospital Effectiveness of Total Quality Management (TQM) Practices

The direct, indirect and total effects of the TQM practices on hospital effectiveness are shown in Table (4.7).

Table (4.7) Mediating Effects of Lean Management on Hospital Effectiveness

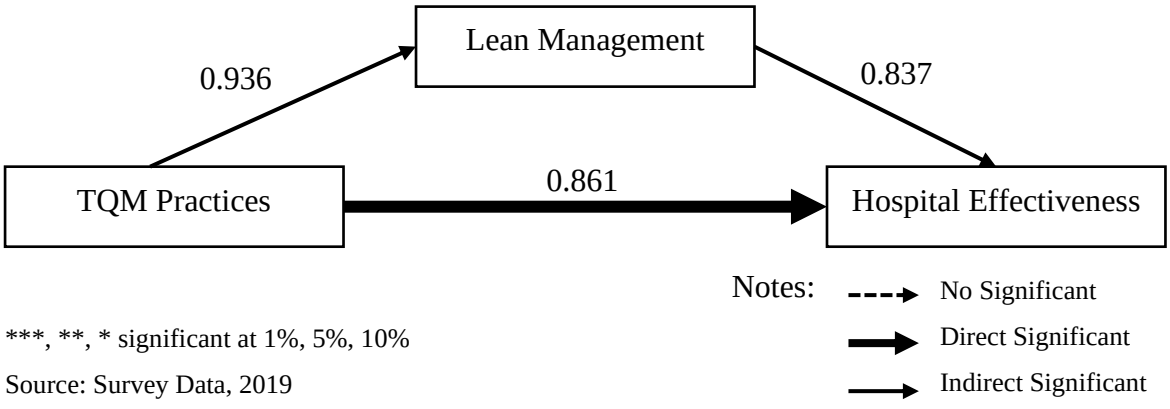
Effects	Variable	Coefficient
Direct Effect	TQM Practices on Hospital Effectiveness	0.861***
Indirect Effect	(TQM Practices on Lean Management) x (Lean Management on Hospital Effectiveness)	0.783***
Total Effect	(Direct Effect) + (Indirect Effect)	1.644***

***, **, * significant at 1%, 5%, 10%

Source: Survey Data, 2019

As shown in Table (4.7), the total effect of TQM practices on hospital effectiveness through lean management is greater than the direct effect of TQM practices on hospital effectiveness. Therefore, if Thukha Kabar Hospital is effectively practiced in TQM practices, lean management will have mediated effect on hospital effectiveness. The result of the path analysis for testing all variables are presented in Figure (4.1).

Figure (4.1) Path Analysis for Hospital Effectiveness Which Practiced TQM Practices



***, **, * significant at 1%, 5%, 10%

Source: Survey Data, 2019

Total quality management practices have positively direct effect on hospital effectiveness. As indirect effect, the coefficient of TQM practices is positively significant with lean management and then the coefficient of lean management is also positively significant with hospital effectiveness. It can be concluded that it is partially mediating effect of lean management between TQM Practices and hospital effectiveness. If Thukha Kabar will be well managed its lean practices, the hospital will provide the most effective service to the customers which will improve the organization. If lean practices are well managed, the hospital can set strategic plans more effectively and put efficient health care in designing processes. Hospital effectiveness is also impacted by lean management because employees understand lean practices as creating trust and fulfillment, the hospital can provide and respond to patients with the right amount of support and guidance. The conclusion is that TQM practices cause hospital effectiveness but the impact is mediated by a third variable lean management.

4.3.2 Mediating Effect of Lean Management on Employee Satisfaction

There is mediating effect through lean management between total quality management practices and employee satisfaction is described in Table (4.8).

Table (4.8) Mediating Effects of Lean Management on Employee Satisfaction

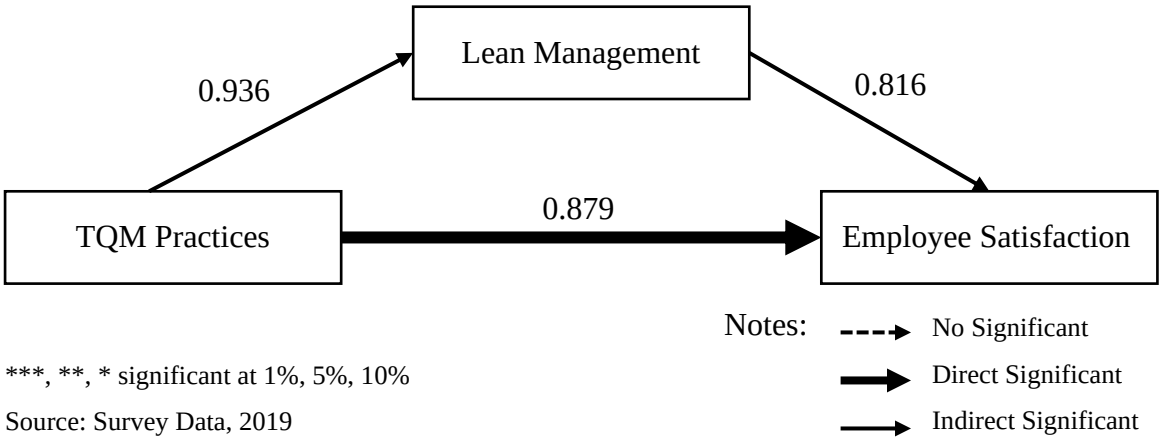
Effects	Variable	Coefficient
Direct Effect	TQM Practices on Hospital Effectiveness	0.879***
Indirect Effect	(TQM Practices on Lean Management) x (Lean Management on Hospital Effectiveness)	0.764***
Total Effect	(Direct Effect) + (Indirect Effect)	1.643***

***, **, * significant at 1%, 5%, 10%

Source: Survey Data, 2019

The total effect of TQM practices on employee satisfaction through lean management is greater than the direct effect of TQM practices on employee satisfaction. The finding is highlighted that if Thukha Kabar Hospital is well management in TQM practices, lean management will have mediated effect on employee satisfaction. The result of the path analysis for testing all variables are presented in Figure (4.2).

Figure (4.2) Path Analysis for Employee Satisfaction Which Practiced TQM Practices



***, **, * significant at 1%, 5%, 10%

Source: Survey Data, 2019

Total quality management practices have positively direct effect on employee satisfaction. As indirect effect, the coefficient of TQM practices is positively significant with lean management and then the coefficient of lean management is also positively significant with employee satisfaction. It can be concluded that it is partially mediating effect of lean management between TQM practices and employee satisfaction. If Thukha Kabar will use TQM practices, employees will be more satisfied in their work and provide the best effort and service to customers. Later, based on lean management, employees are trained properly on lean practices about hospital processes so they follow the process performance standards and change of process standards. Employee satisfaction is also impacted by lean management because employees understand lean practices as creating trust and fulfillment, they provide necessary support and guidance to patients. The conclusion is that TQM practices cause employee satisfaction but the impact is mediated by a third variable lean management.

CHAPTER 5

CONCLUSION

This chapter consists of analysis of the results and their discussion, suggestions and recommendations of findings from analysis on effect of total quality management practices on hospital effectiveness, employee satisfaction, limitation and needs for further investigation on this study.

5.1 Findings and Discussions

This study aims to explore the quality management practices of Thukha Kabar Hospital and then to find out the effect of quality management towards organizational performance of Thukha Kabar Hospital. The data were collected with 5-point Likert-scale structured questionnaires by distributing to a randomly selected sample of 173 employees who are working at various units within the hospital.

The findings indicate that most of the respondents of Thukha Kabar Hospital are female, mainly aged between 21 and 40 years, most of the respondents are bachelor degree holders. Regarding the level of position, the majority of the respondents are nurses. With the relation to year service years in the firm, it was shown that majority of the respondents have working experience 1 to 3 years.

As shown in the survey results the following conclusions can be drawn. For the hospital staff perception towards top management commitment, it can be found out that Thukha Kabar Hospital's senior management always emphasizes on the patient care as a propriety. They also take both responsibility and accountability for overall performance. It can be said that senior management provides necessary resources to improve quality.

According to the survey result on the hospital staff perception towards strategic planning, it is found out that there is a frequent inspection of product quality and process which are taken place in Thukha Kabar Hospital. The hospital staffs think their hospital is successful in achieving the strategic goals, objectives and plans. Thukha Kabar Hospital uses quality tools to plan, control the improvement of processes.

For the hospital staff perception towards employee focus, Thukha Kabar Hospital uses measurements for employee satisfaction formally and regularly. It is found out that the hospital has a well-developed staff performance management system to reward on their high performance of staffs. The respondents have high perception on that the hospital can make the staffs and fully develop their potential.

According to the survey result on the hospital staffs on customer focus, it is found out that Thukha Kabar Hospital develops and uses ways to measure, keep track of and maintain high levels of patients' satisfaction. The respondents have high perception on that the hospital delivers the necessary products or services to meet patient expectation. Moreover, Thukha Kabar Hospital identifies and solves patients' problems quickly.

For the hospital staff perception on the process management, the results point out that Thukha Kabar Hospital regularly examines support processes such as purchase of medicine and medical supplies to meet the health care service needs. The hospital also has a standardized and documented operating procedures to support daily operations. Moreover, it is found out that the hospital puts the effective and efficient health care service in designing process.

The objective is to identify the effect of total quality management on organizational performance: hospital effectiveness and employee satisfaction. As shown in the survey results, the process management, employee focus and the customer focus are highly significant and positively related with the hospital effectiveness. The strategic planning, employee focus, customer focus and process management are highly significant and positively related with the employee satisfaction.

The employees' perception on lean management is that the senior management shares clear vision to all the departments about the lean process. There is a culture which encourages employees to participate in lean process. As the patient pathway integration, the main hospital pathways are formed based on various patient condition and type of services needed. All the processes are clearly defined start to end points as a lean process maturity.

Finally, lean management practices have the mediating effect between total quality management and organizational performance. All the organizational performance: hospital effectiveness and employee satisfaction are partially mediated by lean management

practices. It can be concluded that the organizational performance will be effective and efficient if the hospital can practice both total quality management and lean management.

5.2 Suggestions and Recommendations

It is essential for organizations to improve TQM because TQM has gained increasing popularity as a method to introduce transformational change in an organization's managerial philosophy and performance. Whereas most investigations have identified benefits of TQM in manufacturing type settings, this study sought to extend this knowledge to a private healthcare organization. Because, unlike the manufacturing industry, the service industry and more so in healthcare, the service is produced and consumed simultaneously leaving no room for mistakes and trials.

Based on the findings mentioned above, Thukha Kabar Hospital's management team should continuously maintain all the four quality management practices because these practices are directly proportional to the organizational performance. The higher the implantation of quality management practices within the hospital, the higher the organizational performance results. Among the five quality management practices, the hospital management team should emphasize on employee management especially in motivating and developing the staff potential, giving enough recognition to staffs' high performance and best efforts in terms of financial and non-financial benefits which are contributed in improving job satisfaction.

For leadership, senior management should provide necessary resources for quality maintenance and improvement because the numbers of inpatient and outpatient visits are significantly improving year by year. Therefore, senior management needs to add more manpower in service providing departments especially healthcare in order to give the quality service to customers by reducing over workloads of healthcare staffs. Having sufficient workforce in service providing departments is contributed not only to improve job satisfaction of Thukha Kabar Hospital staffs but also to raise customer satisfaction by reducing waiting time to get a service.

About strategic planning, the senior management should inspect the product quality such as medicines and equipment. They should also inspect the TQM process, lean management practices whether the hospital is using quality tools to plan, control and

improve the processes. Management should also make decisions for the improvement of process used after collecting and reviewing the data.

The hospital should also establish a mechanism to transform hospital strategic objectives into actionable plans by using lean management practices to lead the successful measurement of the performance of the entire hospital. The hospital should share lean processes to all departments so that the hospital can set its objectives to be patient centered with lean process management. Patient pathway integration is the main function for the customers' overall process so the hospital should develop the integrated main pathways by using lean management practices.

Moreover, senior management should emphasize on employees whether their workplace has occupational health and safety. Employees especially medical staffs, doctors and nurses have to face with patients every day so they are always keeping in touch with various diseases. They have some risks of being infected by a mistake as they are directly or indirectly working with diseases. The hospital should identify hazards in the workplace and take steps to eliminate or minimize them and develop a safety plan. The hospital should regularly check all equipment and tools to ensure that they are well maintained and safe to use.

In addition, senior management should provide proper training to all the employees because they are associated with a job with potential injury. The hospital should provide written instructions and safe work procedures so they check for themselves if they are unsure of a task or have forgotten part of their training. Senior management should also supervise the employees to ensure that they are using their training to perform their job properly and safely.

Moreover, the hospital management needs to improve focusing on the individual strengths and differences of staffs, encourage feedback of staffs, and pay attention to staffs' suggestions and opinions for the organization. Finally, the hospital management team should consider the above facts to push up the organizational performance and to stay competitive in private healthcare industry.

5.3 Needs for Further Research

This study is carried out in a small number of respondents in Thukha Kabar Hospital. Respondents include hospital staffs with different possessions and different level

of positions which lead to different view on variables. Thus, it is suggested that the survey should be done in a specific type of respondent or medical staffs and non-medical staff different perceptions on total quality management practices to get more effective results. Since survey questions for total quality management practices and organizational performance were randomly collected from only 173 staffs from different divisions among total 312 staffs, further research is needed to collect data from a larger population in order to increase the reliability of survey result.

On the other hand, since specific quality management practices those are widely used in most of the studies were identified as useful predictors of organizational performance for Thukha Kabar Hospital, there is a necessity to investigate more rigorously for other quality management practices which likewise contribute to organizational performance. Besides, organizational performance for this study was measured only from non-financial perspective and perceived customer satisfaction from organization's point of view, financial measurements and customer satisfaction from customer perspective regarding organizational performance should be studied in further research.

Since the study is only observed for Thukha Kabar Hospital, this may not be generalizable to the private healthcare industry. In order to know private healthcare industry, the larger sample size requires across the different private hospitals and regions. In the further, if time, effort and data available are not limited, the larger research should be conducted by considering the limitation of the study. Moreover, it is strongly recommended to consider the organization sustainability as the consequence of the relationship of quality management practices towards organizational performance in further research.

REFERENCES

Abdullah, M. M, et al. (2008). The Influence of Soft Factors on Quality Improvement and Performance: Perceptions from Managers. The TQM Journal, 20(5), 436-452.

Abusa, F. (2011). *TQM implementation and its impact on organizational performance in developing countries: a case study on Libya*. Doctor of Philosophy thesis, Faculty of Engineering, University of Wollongong.

Achanga, P., Shehab, E., Roy, R. & Nelder, G. (2006). Critical success factors for lean implementation within SMEs. *Journal of Manufacturing Technology Management*, 17(4), 460-471.

Aifaa, N. S., Nurul, F. H., Naimah, A., Nur, A. K. (2013). Lean Healthcare Practice and Healthcare Performance in Malaysian Healthcare Industry. *International Journal of Scientific and Research Publications, 3*(1).

Aly, N. and Schloss, D. (2003). Assessing quality management systems of Mexico's maquiladoras. *The TQM Magazine*, *15*(1), 30-36.

Arawati, A. and Mokhtar, A. (2000). Total quality management practices in manufacturing companies in Malaysia: An exploratory analysis. *Total Quality Management, 11*(8),1041-1051.

Arumugam V., et al. (2008). TQM Practices and Quality Management Performance- An Investigation of their Relationship Using Data from ISO 9001:2000 Firms in Malaysia. *The TQM Magazine*, *20*(6), 636-650

Barry, B. (1997). *Strategic Planning Workbook for Nonprofit Organizations, Revised and Updated.* Saint Paul: Amherst H Wilder Foundation

Beer, M. (2003). Why Total Quality Management Programs Do Not Persist: The Role of Management Quality and Implications of Leading a TQM Transformation. *Decision Sciences*, *34*(4), 623-642.

Berczuk, C. (2008). *The Lean Hospital*. New York: Productivity

Bernstein, R. (2005). *Lean culture*. New York: Productivity.

Berwick, D. M., Nolan, T. W., & Whittington, J. (2008). The triple aim: Care, health and cost. *Health Affairs*, *27*(3), 759-769.

Bhasin, S. & Burcher, P. (2006). Lean viewed as a philosophy. *Journal of Manufacturing Technology*, *17*(1), 56-72.

Bhatti, K., & Qureshi, T. (2007). Impact of employee participation on job satisfaction, employee commitment and employee productivity. *International Review of Business Research Papers*, *3*(2), 54-68.

Boulter, D. E. (1997). Strategic planning and performance budgeting: A new approach to managing Maine state government. *Journal of the American Society of Legislative Clerks and Secretaries*, *3*(2), 3–14.

Boyer, K. K. (1996). An assessment of managerial commitment to lean production. *International Journal of Operations & Production Management*, *16*(9), 48-59.

Carney, M. (2011). Influence of organizational culture on quality healthcare delivery. *International Journal of Health Care Quality Assurance*, *24*(7), 523-539.

Collins, R., (1996). *Total quality management, effective management*. New Zealand: C. C. H. International.

Cranny, C. J., Smith, P. C., & Stone, E. F. (1992). *Job satisfaction: How people feel about their jobs and how it affects their performance*. New York: Lexington.

Crosby, P. B. (1979). *Quality Is Free*. New York: McGraw-Hill.

Curatolo, N., Lamouri, S., Huet, J. C., & Rieutord, A. (2014). A critical analysis of Lean approach structuring in hospitals. *Business Process Management Journal*, *20*(3), 433-454.

Dahlgaard, J. J., & Dahlgaard-Park, S. M. (2006). Lean production, six sigma quality, TQM and company culture. *The TQM Magazine*, *18*(3), 263–281.

Dahlgaard, J. J., & Eskildsen, J. (1999). Scoring business excellence. *European Quality*, *6*(1), 34-37.

De Souza, L. B and Pidd. M. (2011). Exploring the barriers to lean health care implementation. *Public Money & Management*, *31*(1), 59-66.

De Souza, L. B. (2009). Trends and approaches in lean healthcare. *Leadership in Health Services*, *22*(2), 121–139.

Deborah, V. P. (2010). *The impact of effective leadership on quality: the role of Leadership in managing quality initiatives in health care*. PhD thesis.

Deming, W. (1986). *Quality, Productivity & Competition Position*. Cambridge: Massachussett.

Deming, W.E. (1993). *The new economics - for industry, government, education*. Cambridge, MA, USA: MIT, Center for Advanced Engineering Study.

Demirbag, M., Kh, S. C. L., et al. (2006). TQM and market orientations impact on SMEs' performance. *Industrial Management & Data System*, *106*(8), 1206-1228.

Dennis, P. (2002). *Lean production simplified: A plain language guide to the world's most powerful production system*. New York: Productivity Press.

Dering, N. Z. (1998). Leadership in quality organizations. *Preview Journal for Quality & Participation, 21*(1), 32-35.

Duggirala, M., Rajendran, C., and Anantharaman, R. N. (2008). Providerperceived dimensions of total quality management in health care. *Benchmarking an International Journal*, *15*(6), 693-722.

EFQM. (2010). *European Foundation Quality Model* (EFQM 2010).

Emiliani, B. (2008). *Practical Lean Leadership: A Strategic Leadership Guide for Executives*. Wethersfield, CT: The Center for Lean Business Management.

Emiliani, M. L. (1998). *Lean behaviors*. Management Decision, *36*(9), 615-631.

Endsley, S., Magill, M. K. and Godfrey, M. M. (2006). Creating a lean practice *Family Practice Management,* 34-38.

Flinchbaugh, J., A. Carlino and M. L. Curtis-Hendiey (2008). Essentials of lean leadership. *Tooling and Production*, *74*(2), 16-18.

Found, P. and R. Harvey (2007). Leading the lean enterprise. *Engineering Management Journal*, *17*(1), 40-43.

Fuentes, M. M. F., Montes, F. J. L., et al. (2006). Total Quality Management, strategic orientation and organizational performance: the case of Spanish companies. *Total Quality Management & Business Excellence*, *17*(3), 303-323.

Gharakhani, D., Rahmati, H., Farrokhi, M., Farahmandian, A. (2013). Total Quality Management and Organizational Performance. *American Journal of Industrial Engineering, 1*(3), 46-50.

Graban, M. (2011). *Lean Hospitals: Improving Quality, Patient Safety, and Employee Engagement* (2th ed.). United States: Productivity Press.

Graban, M. (2007). Riverside Medical Center Puts Lean in the Laboratory. *Society of Manufacturing Engineers Lean Manufacturing*, 53-57.

Graban, M. (2011). *Allocating İnternal Audit Costs İn A Lean Environment*. Pınar Şengözer (Çev). İstanbul, Optimist Yayınları.

Hagg, H., Suskovich, D.,Workman, J., Scachitti, S. and Hudson, B. (2007). Adaption of Lean Methodologies for Healthcare Applications. *RCHE Publications, 24*.

Harmon, J., Scotti, D. J., Behson, S., Farias, G., Petzel, R., (2003). Effects of High Involvement Work Systems on Employee Satisfaction and Service Costs in Veterans Healthcare. *Journal of Healthcare Management, 48*(6), 393-407.

Henderson, B. A. & Larco, J. L. (2003). *Lean transformation*. Richmond: Oaklea.

Hines, P., Holweg, M. & Rich, N. (2004). Learning to evolve. *International Journal of Operations & Production Management, 24*(10), 994-1011.

Hunter, W., & Tietyen, D. (1997). *Business to business marketing: Creating a community of customers*. Lincolnwood-Illinois, McGraw-Hill Professional.

Hwang, P. & Hong P. (2014). Lean practices for quality results: A case illustration. *International Journal Health Care Quality Assurance, 27*, 729-41.

IOM. (1996). *Crossing the Quality Chasm*. The Institute of Medicine, Health Care Quality Initiative.

Ishikawa, D. (1985). *What is Total Quality Control? The Japanese Way (Business Management).* Prentice Hall Trade.

Jaafreh, A. B. & Al-abedallat, A. Z. (2012). The Effect of Quality Management Practices on Organizational Performance in Jordan: An Empirical Study. *International Journal of Financial Research, 4*(1), 93.

Jan, M., et al. (2004). Obstacles to TQM Implementation in Mexico's Maquiladora Industry. *Total Quality Management & Business Excellence, 15*(1), 59-72.

Johnson, G. and Scholes, K. (1993). *Exploring Corporate Strategy.* Prentice Hall.

JCI (2013). *About Joint Commission International* (2013)

Jones, B., and Grimshaw, D. (2012). *Training and skill to improvisation in firm*. Manchester.

Joosten, T., Bongers, I., & Janssen, R. (2009). Application of lean thinking to healthcare: Issues and observations. *International Journal for Quality in Healthcare, 2l*(5), 241-347.

Juran, J. (1988). *Juran on Planning for Quality*. London: Collier Macmillan.

Kanji, G. K. (2002). Measuring Business excellence London: Routledge.

Kaplan, Roberts S. (2001). Strategic performance measurement and management in nonprofit organizations. *Nonprofit Management and Leadership, 11*(3), 353-370.

Kassicieh, S. K. and Yourstone, S. A. (1998). Training, performance evaluation, rewards, and TQM implementation success. *Journal of Operations Management, 3*(1), 25-38.

Kim, C. S., Spahlinger, D. A., Kin, J. M., and Billi, J. E. (2006). Lean health care: What can hospitals learn from a world-class automaker? *Journal of Hospital Medicine, 1*(3), 191–199.

Kollberg, B., Dahlgaard, J. J., & Brehmer, P. O. (2007). Measuring lean initiatives in health care services: Issues and findings. *International Journal of Productivity and Performance Management, 56*(1), 7–24.

Kondo, Y. (1997). Quality is a Source of Employee Empowerment. *The TQM Magazine, 9*(5), 357-363.

Kovac, EJ and Thompson, RA (1994). Strategic facilities planning. *Strategy & Leadership*, 22(1), 44–49.

Lai, M. (2003). *An investigation into the Relationship Between Total Quality Management Practice & Performance in a Taiwan Public Hospital*. Doctoral thesis, Austrialian Catholic University.

Lean enterprise institute. (2009). Retrieved 10/10, 2009, from http://www.lean.org.

Leslie, M., Hagood, C., Royer, A., Reece, C. P and Maloney S. (2006). Using Lean Methods to Improve OR Turnover Times. *Aorn Journal, 84*(5), 849-855.

Liker, J. (2004). *The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer*. New York: McGraw-Hill.

Liker, J. and G. L. Convis (2011). *The Toyota Way to Lean Leadership: Achieving and Sustaining Excellence Through Leadership Development*. New York: McGraw-Hill.

Ljungstrom, M. and Klefsjo, B. (2002). Implementation obstacles for aworkdevelopment-oriented TQM strategy. *Total Quality Management, 13*(5), 621-634.

Loasby, BJ (1967). Long-Range Formal Planning in Perspective. *The Journal of Management Studies, 4,* 300–308.

Maasouman, M.A., & Demirli, K. (2015). Development of a lean maturity model for operational level planning. *International Journal of Advanced Manufacturing, 83,* 1171-1188.

Mann, D. (2005). *Creating a Lean Culture: Tools to Sustain Lean Conversions*. Portland, OR: Productivity Press.

Mazzocato, P., Holden, R. J., Brommels, M., Aronsson, H., Bäckman, U., Elg, M. and Thor, J. (2012). How does lean work in emergency care? A case study of a lean-inspired intervention at the Astrid Lindgren Children's Hospital, Stockholm, Sweden. *BMC Health Services Research, 12,* 28.

MBNQA. (2006). *Baldrige National Quality Program*. Health Care Criteria for Performance Excellence.

Miller, J. L. (2006). *Coach Yourself to Succeed at Work: How to Achieve Optimal Performance and Job Satisfaction*. CA, Dorrance Publishing Co.

Ministry of Health & Sports. (2016). *Myanmar National Health Plan* (2017-2021).

Mintzberg, H. (1994). *The Rise and Fall of Strategic Planning*. The Free Press, New York.

Moyes, G. D., & Shao, L. P., Newsome, M. (2008). Comparative analysis of employee job satisfaction in the accounting profession. *Journal of Business & Economics Research, 6*(2), 65-81.

Murman, E. (2002). *Lean enterprise value: Insights from MIT's Lean Aerospace Initiative*. New York: Palgrave

Nancy C. Morse, (1977). *Satisfactions in the white-collar job*, Ayer publishing.

Nightingale, D. (2005). *LESAT: The Lean Enterprise Self-Assessment Tool*. Retrieved from Integrating the Lean Enterprise.

Nwokah, N. G. and Maclayton, D. W. (2006). Customer-focus and business performance: the study of food and beverages organizations in Nigeria. *Measuring Business Excellence, 10*(4): pp.56-76.

Ohno, T. (1997). *Toyota Production System: Beyond large scale production*. Japan.

Okland, J. S. (1993). *Total quality Management; the Route to improve performance*. Butterworth-Heinemann Ltd., Oxford, UK.

Palo, S. and Padhi, N. (2003). Measuring effectiveness of TQM training: an Indian study. *International Journal of Training & Development, 7*(3), 203-216.

Pöppelbuß, J., & Röglinger, M. (2011). What makes a useful maturity model? A framework of general design principles for maturity models and its demonstration in business process management. *ECIS 2011 Proceedings, 28*.

Punnakitikashem. P. (2013). *The Impact of Lean Practices and Organizational Commitment on Operational Performance in Hospitals*. College of Management, Mahidol University, Bangkok, Thailand.

Radnor, Z. and Walley, P. (2008). Learning to walk before we try to run: adapting Lean for the public sector. *Public Money & Management*, *28*(1), 13-20.

Radnor, Z. J., Holweg, M. and Waring, J. (2012). Lean in healthcare: The unfilled promise? *Social Science & Medicine, 74*(3), 364-371.

Radnor, Z., Walley, P., Stephens, A. and Bucci, G. (2006). *Evaluation of the lean approach to business management and its use in the public sector*. Edinburgh, UK: The Scottish Government.

Radziwill, N, (2013). Leading and managing the lean management process. *The Quality Management Journal, 20*, 61-64.

Ramadani, V. & Gerguri, S. (2011). Theoretical framework of innovation and competitiveness and innovation program in Macedonia. *European Journal of Social Sciences, 23*(2), 268-276.

Rexhepi, L. and Shrestha, P. (2011). *Lean Service Implementation in Hospital: A Case study conducted in University Clinical Centre of Kosovo*. Rheumatology department, Master Thesis, Umea School of Business, Umea University, Sweden.

Robinson, S., Radnor, Z. J., Burgess, N., & Worthington, C. (2012). Lean: Utilizing simulation in the implementation of lean in healthcare. *European Journal of Operational Research, 219*, 188-197.

SA, P. M. E. and Kanji, G. K. (2003). Leadership for excellence in Portuguese municipalities: critical success factors, measurements and improvement strategies. *Total Quality Management & Business Excellent, 14*(2), 131-139.

Sabell, A., Kashou, R., & Omran, O. (2014). Quality Management Practices and their Relationship to Organizational Performance in Palestinian Hospitals. *International Journal of Operations & Production Management, 34*(12), 1487-1505.

Sachdeva A., et al. (2007). Impact of ISO 9000 Certification on Performance of SMEs: A Study of Indian Industry. *International Journal of Management Practice, 2*(3), 226-239.

Scott, T. R. Mannion, H. T. O. Davies, M. N. Marshall, (2003). Implementing culture change in health care: theory and practice. *International Journal for quality in Health Care, 15*(2), 111-118.

Shah, R. and Ward, P.T. (2003). Lean manufacturing: context, practice bundles, and performance. *Journal of Operations Management, 21*(2), 129–149.

Shipton, H., Armstrong, C., West, M., & Dawson, J. (2008). The impact of leadership and quality climate on hospital performance. *International Journal for Quality Healthcare, 20*(6), 439–445.

Sila, I. and Ebrahimpour, M. (2002). An investigation of the total quality management survey-based research published between 1989 and 2000: A literature review. *International Journal of Quality & Reliability Management, 19*(7), 902-970.

Spear, S. J. (2004). Learning to Lead at Toyota. *Harvard Business Review*, 82(5): 78-86.

Spear, S.J. (Ed.). (2005). Fixing health care from the inside today. *Harvard Business Review, 83*(9),78-91.

Talib F., and Rahman Z. (2010). Critical Success Factors of TQM in Service Organizations: A Proposed Model. *Services Marketing Quarterly, 31*(3), 363-380.

Talib F., et al. (2010). The Relationship between Total Quality Management and Quality Performance in the Service Industry: A Theoretical Model. *International Journal of Business, Management and Social Sciences, 1*(1), 113-128.

Talib F., et al. (2012). Total Quality Management in Service Sector: A Literature Review. *International Journal of Business Innovation and Research, 6*(3), 259-301.

Talib, F. (2013). An overview of total quality management: understanding the fundamentals in service organization. *International Journal of Advanced Quality Management, 1(*1), 1-20.

Tan, L. P. and Tan, J. K. C. (2002). Cellular structure for total quality management in a globalized economy. *Total Quality Management, 12*(3), 315-321.

Tracey, M. & Flinchbaugh, J. (2006). How human resources departments can help lean transformation. *Association for Manufacturing Excellence, 22*, 5-10.

Urban, W. (2015). Organizational culture assessment as a means of Lean Management maturity diagnosis. Zarzadzanie I Finanse Journal of Management and Finance, 13, 131-139.

Usman, G., Memon, K.N., & Shaikh, S. (2015). Bed occupancy rate & length of stay of patients in medical & allied wards of a tertiary care hospital. *Journal of Ayub Medical Colledge Abbottabad, 27*(2), 367-370.

Van Ho, P. (2011). *Total quality management approach to the information systems development processes: An empirical study*, Dissertation submitted to the faculty of Virginia Polytechnic Institute and State University, Alexandria, Virginia.

Vanhaecht K, De Witte K, Sermeus W. (2007). *The impact of clinical pathways on the organization of care processes*. PhD dissertation, Belgium: KU Leuven.

Viljoen, J. (1994). *Strategic Management: Planning and Implementing Successful Corporate Strategies* (2nd ed.). South Melbourne: Longman.

Vissers J, Beech R. (2005). *Health operations management: patient flow statistics in health care*. New York: Routledge, Taylor & Francis Group Publishers.

Womack, J., Jones, D., & Roos, D. (1990). *The machine that changed the world: Based on the massachusetts institute of technology 5-million dollar 5-year study on the future of the automobile*. New York: Rawson Associates.

Womack, James P., Daniel T. Jones ve Daniel R. (2000). *Dünyayı Değiştiren Makine*. Panel Matbaacılı.

Yong, J. and Wilkinson, A. (2003). From Kyoto to Singapore: the adoption of quality management in the services sector in Singapore. *Total Quality Management & Business Excellence, 14(*8),849-873.

Yusof S.M., et al. (1999). Critical Success Factors for Total Quality Management in Implementation in Small and Medium Enterprises. *Total Quality Management*, *10*(4&5), 803-809

Yusuf Y., et al. (2007). Implementation of TQM in China and Organizational Performance: An Empirical Investigation. *Total Quality Management*, *18*(5), 509-530.

APPENDICES

Appendix I: Survey Questionnaire

The Effect of Total Quality Management Practices on Organizational Performance of Thukha Kabar Hospital

Part I: Demographic Factor

Please tick [√] the appropriate answer for each of the following questions.

1. Gender

   Male [ ] Female [ ]

2. Age Group

   Below 21 years [ ] 21-30 years [ ] 31-40 years [ ] 41-50 years [ ]

   Above 50 years [ ]

3. Education

   Bachelor Degree [ ] PhD [ ] Master Degree [ ] Other [ ]

4. Occupation

   Doctor [ ] Nurse [ ] Pharmacist [ ] Technologist [ ] Receptionist [ ]

   Office Staff [ ] Others (please specify) ……

5. Year of Service in the Firm

   Under 1 year [ ] 1 – 3 years [ ] 3 – 5 years [ ] Above 5 years [ ]

Please tick the number to indicate the extent to which you agree with the following statements.

1. Strongly disagree 2. Disagree 3. Neither disagree nor agree
4. Agree 5. Strongly agree

Part II. Total Quality Management Practices

I. Top Management Commitment		Scale				
1.	Senior management always emphasize the importance of patient care.	1	2	3	4	5
2.	Senior management provides necessary resources towards efforts to improve quality.	1	2	3	4	5
3.	Senior management holds regular meetings to discuss quality issues.	1	2	3	4	5
4.	Senior management are actively involved in establishing and communicating visions, missions and values for quality service.	1	2	3	4	5
5.	Senior management takes both responsibility and accountability for overall performance.	1	2	3	4	5

II. Strategic Planning		Scale				
1.	There is a frequent inspection of product quality and process takes place in our hospital.	1	2	3	4	5
2.	Our hospital uses quality tools to plan, control and improvement of processes.	1	2	3	4	5
3.	We collect data first and then we make decision for the improvement of process, after reviewing it.	1	2	3	4	5
4.	Our hospital’s strategic plans identify performance measures for gauging success in achieving individual strategic goals and objectives.	1	2	3	4	5
5.	I think our hospital is successful in achieving the strategic goals, objectives and plans.	1	2	3	4	5

	III. Employee Focus	Scale				
1.	Our hospital has a well-developed staff performance management system to reward high performance.	1	2	3	4	5
2.	Our hospital motivates staffs and fully develops their potential.	1	2	3	4	5
3.	Our hospital provides training programs to its staffs that their jobs need most.	1	2	3	4	5
4.	Our hospital emphasizes and makes sure of the occupation health and safety of staffs' workplace.	1	2	3	4	5
5.	Employee satisfaction is formally and regularly measured.	1	2	3	4	5

	IV. Customer Focus	Scale				
1.	Our hospital delivers the necessary products or services to meet patient expectations.	1	2	3	4	5
2.	Our hospital identifies and solves patients' problems quickly.	1	2	3	4	5
3.	Our hospital develops and uses ways to measure, keep track of and maintain high levels of patients' satisfaction.	1	2	3	4	5
4.	Our hospital identifies target customers, potential customers and market segments of health care.	1	2	3	4	5
5.	Our hospital reviews and responses patients' feedback and suggestions into current procedures.	1	2	3	4	5

	V. Process Management	Scale				
1.	Our hospital uses new changing technology into related processes.	1	2	3	4	5
2.	Our hospital puts the effective and efficient health care service in designing process.	1	2	3	4	5

3.	Our hospital has a standardized and documented operating procedures (SOP) to support daily operations.	1	2	3	4	5
4.	Our hospital regularly examines support processes (e.g. purchase medicines and medical supplies) to meet the health care service needs.	1	2	3	4	5
5.	Individual department continuously tries to improve the healthcare service process.	1	2	3	4	5

Part III: Lean Management

I. Lean Leadership Commitment		Scale				
1.	Senior management share clear vision to all the departments about the lean process.	1	2	3	4	5
2.	Senior management supports in achieving cross-functional goals of lean process.	1	2	3	4	5
3.	Senior management has established measures to reflect the performance of the entire hospital towards lean management.	1	2	3	4	5
4.	Senior management set the hospital objectives patient-centered (productivity, quality, cost, safety).	1	2	3	4	5
5.	Establish a mechanism to transform hospital strategic objectives into actionable plans.	1	2	3	4	5

II. Culture & Involvement		Scale				
1.	Hospital staffs understand lean as a business practice which creates value through creating trust & fulfillment.	1	2	3	4	5
2.	Hospital staffs understand that lean is more than waste elimination and cost reduction.	1	2	3	4	5
3.	Hospital staffs meet regularly to identify areas for improvement of lean management.	1	2	3	4	5

4.	Hospital staffs are encouraged to participate in lean process.	1	2	3	4	5
5.	Hospital staffs can deliver their ideas or suggestions for improvement to hospital management.	1	2	3	4	5

III. Patient Pathway Integration		Scale				
1.	Hospital resources (staff, supplies, data & equipment) are brought to patient's care.	1	2	3	4	5
2.	All consecutive processes within patients' pathway are directly connected.	1	2	3	4	5
3.	Patient pathways are standardized to eliminate forms of waste.	1	2	3	4	5
4.	Main hospital pathways are formed based on various patient defined values (patient condition and type of needed service).	1	2	3	4	5
5.	Coordinate with other hospital departments to develop the integrated main pathways of hospital.	1	2	3	4	5

IV. Lean Process Maturity		Scale				
1.	All processes have clearly defined start and end points.	1	2	3	4	5
2.	All processes have clearly defined sequence of steps which must followed to achieve desired outcomes.	1	2	3	4	5
3.	Staff trainings are designed and updated according to the process performance standards.	1	2	3	4	5
4.	New process standards are developed or existing ones are updated as soon as new forms of waste are identified.	1	2	3	4	5
5.	Change of process standards is done by Plan-Do-Check-Act method.	1	2	3	4	5

Part IV: Organizational Performance

I. Hospital Effectiveness		Scale				
1.	Number of outpatients and inpatients increase in our hospital.	1	2	3	4	5
2.	Number of operations (OT case) increase in our hospital.	1	2	3	4	5
3.	Patients' average length of stay decrease in our hospital.	1	2	3	4	5
4.	Our hospital can quickly response patients who come to the hospital with certain medical emergencies.	1	2	3	4	5
5.	Our hospital can provide enough nurse-to-patient staffing ratio.	1	2	3	4	5

II. Employee Satisfaction		Scale				
1.	I receive the right amount of support and guidance form my supervisor.	1	2	3	4	5
2.	I am satisfied with my chances for promotion.	1	2	3	4	5
3.	My work is evaluated based on a fair system of performance standards.	1	2	3	4	5
4.	I satisfy the job for improving my performance.	1	2	3	4	5
5.	I am proud to work for this hospital.	1	2	3	4	5

Thank you very much for your kind participation.

Appendix II: Statistical Output

Multiple Linear Regression (Regression Between TQM Practices and Hospital Effectiveness)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.873[a]	.761	.754	.404	.761	106.532	5	167	.000	2.188

a. Predictors: (Constant), PMMean, SPMean, CFMean, TMCMean, EFMean

b. Dependent Variable: HEMean

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	86.883	5	17.377	106.532	.000[b]
	Residual	27.239	167	.163		
	Total	114.122	172			

a. Dependent Variable: HEMean

b. Predictors: (Constant), PMMean, SPMean, CFMean, TMCMean, EFMean

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficient	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.151	.166		.914	.362		
	TMC Mean	-.002	.076	-.002	-.024	.981	.252	3.969
	SP Mean	.087	.068	.082	1.278	.203	.346	2.887
	EF Mean	.264	.076	.277	3.457	.001	.223	4.491
	CF Mean	.231	.075	.224	3.082	.002	.271	3.694
	PM Mean	.383	.082	.363	4.641	.000	.233	4.285

a. Dependent Variable: HEMean

Multiple Linear Regression (Regression Between TQM Practices and Employee Satisfaction)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.890[a]	.793	.787	.412	.793	127.795	5	167	.000	1.692

a. Predictors: (Constant), PMMean, SPMean, CFMean, TMCMean, EFMean

b. Dependent Variable: ESMean

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	108.563	5	21.713	127.795	.000[b]
	Residual	28.374	167	.170		
	Total	136.937	172			

a. Dependent Variable: ESMean

b. Predictors: (Constant), PMMean, SPMean, CFMean, TMCMean, EFMean

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficient	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.400	.169		-2.367	.019		
	TMC Mean	-.067	.078	-.060	-.860	.391	.252	3.969
	SP Mean	.259	.069	.224	3.735	.000	.346	2.887
	EF Mean	.317	.078	.303	4.054	.000	.223	4.491
	CF Mean	.395	.077	.349	5.161	.000	.271	3.694
	PM Mean	.184	.084	.159	2.187	.030	.233	4.285

a. Dependent Variable: ESMean

Simple Linear Regression (Regression Between TQM Practices and Hospital Effectiveness)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.861[a]	.742	.740	.415	.742	491.065	1	171	.000	2.183

a. Predictors: (Constant), TQMMean

b. Dependent Variable: HEMean

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	84.646	1	84.646	491.065	.000[b]
	Residual	29.476	171	.172		
	Total	114.122	172			

a. Dependent Variable: HEMean

b. Predictors: (Constant), TQMMean

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficient	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.157	.164		.954	.341		
	TQM Mean	.971	.044	.861	22.160	.000	1.000	1.000

a. Dependent Variable: HEMean

Simple Linear Regression (Regression Between TQM Practices and Employee Satisfaction)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.879[a]	.773	.772	.426	.773	581.909	1	171	.000	1.704

a. Predictors: (Constant), TQMMean

b. Dependent Variable: ESMean

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	105.836	1	105.836	581.909	.000[b]
	Residual	31.101	171	.182		
	Total	136.937	172			

a. Dependent Variable: ESMean

b. Predictors: (Constant), TQMMean

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficient	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.399	.168		-2.369	.019		
	TQM Mean	1.086	.045	.879	24.123	.000	1.000	1.000

a. Dependent Variable: ESMean

Simple Linear Regression (Regression Between TQM Practices and Lean Management)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.936[a]	.877	.876	.242	.877	1216.972	1	171	.000	1.512

a. Predictors: (Constant), TQMMean

b. Dependent Variable: LMMean

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	71.067	1	71.067	1216.972	.000[b]
	Residual	9.986	171	.058		
	Total	81.053	172			

a. Dependent Variable: LMMean

b. Predictors: (Constant), TQMMean

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficient	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.412	.095		4.317	.000		
	TQM Mean	.890	.026	.936	34.885	.000	1.000	1.000

a. Dependent Variable: LMMean

Simple Linear Regression (Regression Between Lean Management and Hospital Effectiveness)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.837[a]	.701	.699	.447	.701	400.286	1	171	.000	1.952

a. Predictors: (Constant), LMMean

b. Dependent Variable: HEMean

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	79.963	1	79.963	400.286	.000[b]
	Residual	34.160	171	.200		
	Total	114.122	172			

a. Dependent Variable: HEMean

b. Predictors: (Constant), LMMean

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficient	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.068	.186		.365	.715		
	LM Mean	.993	.050	.837	20.007	.000	1.000	1.000

a. Dependent Variable: HEMean

Simple Linear Regression (Regression Between Lean Management and Employee Satisfaction)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.816[a]	.666	.665	.517	.666	341.696	1	171	.000	1.733

a. Predictors: (Constant), LMMean

b. Dependent Variable: ESMean

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	91.264	1	91.264	341.696	.000[b]
	Residual	45.673	171	.267		
	Total	136.937	172			

a. Dependent Variable: ESMean

b. Predictors: (Constant), LMMean

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficient	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.316	.215		-1.471	.143		
	LM Mean	1.061	.057	.816	18.485	.000	1.000	1.000

a. Dependent Variable: ESMean