QATAR UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

BALANCED SCORECARD AND STRATEGY MAP IN THE PUBLIC HEALTHCARE SECTOR: A CASE STUDY FROM QATAR

BY

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ABSTRACT

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Title: Balanced Scorecard and Strategy Map in the Public Healthcare Sector: A Case Study from Qatar

Supervisor of Project: Dr. Hani Kamel.

During the last four decades, many Scholars have dedicated their efforts to develop tools and systems for the managers to assist them in managing and improving the performance of their organizations. Many tools and frameworks have been developed. The Balanced Scorecard developed by Kaplan and Norton in 1992 is among the most widely used performance management tools in various sectors.

The main purpose of this study is to design a proposed Balanced Scorecard and Strategy Map and Key Performance Indicators (KPIs) for Hamad Medical Corporation (HMC). HMC is the main public healthcare organization in the state of Qatar and provides healthcare services to 95% of the population in the country. This tool is expected to help HMC leaders visualize the organization strategy in one page to be easily communicated to all employees. In addition, this performance measurement tool would assist HMC leaders in monitoring the implementation of the organization strategy during the massive expansion that the organization is going through. To achieve this target, the proposed tool was designed with the help of the organization's leaders through a number of in-depth interviews and consultations.

This dissertation describes all the phases of the design and development of the proposed Balance Scorecard (BSC) and its associated Strategy Map and KPIs for Hamad Medical Corporation. The dissertation concludes with the discussion of the findings and

recommendations for a proper practical implementation.

Keywords: Balanced Scorecard, Strategy Map, Key Performance Indicators, Healthcare Sector

DEDICATION

I dedicate this research to my honorable mother whom I give credit for supporting me to continue this MBA program. I want to thank her for always being there and her continuous prayer for me during difficult time.

I also dedicate this research to my wife and my children who have suffered from my shortcomings due to the amount of time I have dedicated to the MBA program. Thank you so much for providing me with the support I needed, and I apologize for all my shortcomings.

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CHAPTER 1: INTRODUCTION

This chapter summaries the background of the study, the research problem, the research questions, the main purpose, the limitations and the general outline of the study.

1.1 Background

Strategy as defined by Porter (1996) is the establishment of exceptional and valuable activities. Strategy requires unique sets of activities, meeting few needs of many customers, or broad needs of few customers, deciding what to compete on and what not to do. It is about being different and provide distinctive mix of values. In today's dynamic environment that we live in, achieving sustainable competitive advantage has become a significant challenge because of the rapid advancement in technology. In addition, due to the continuous pressure to increase productivity, managers have adopted tools such as Benchmarking, Business Process Reengineering, Total Quality Management (TQM), and a strategy-oriented Balanced Scorecard (BSC). As a result, significant improvement has been achieved but rarely have resulted in sustainable competitive advantage and sustainable profitability. As per Porter (1996), although operational excellence is essential to superior performance, it is not enough, because its tools and techniques can be easily imitated by competitors. Therefore, the organization should select an exceptional and valuable positions imbedded in the whole organization, system-wide, as well as the detailed activities that are extremely hard to imitate.

To achieve sustainable competitive advantage, organizations must continuously develop unique core competencies. In addition, although the organization's vision, mission and goals can be easily defined, the leadership are still concerned whether employees can

clearly understand them and successfully implement the required actions to accomplish the pre-determined goals. In that sense, it can be argued that setting the right goals is not as challenging to the organization as how to achieve them.

Given this concern, a carefully defined performance measurement system is required to closely monitor and measure the progress toward successfully operationalizing the strategy. Therefore, there has been extensive debate in the previous literature about the deficiencies of the performance measurement systems for more than 60 years (Neely el al., 2008). The extensive dependence on financial measures to assess organizational performance has been extremely criticized for many reasons. For example:

- They are short-term oriented and subject to manipulation (Atkinson and Brown, 2001; Johnson and Kaplan, 1987).
- It is well-accepted that the financial measures do not highlight opportunities for improvement in strategic areas, and innovation and creativity that are highly important in this global competitive environment (Ittner and Larcker, 1998; McPhail et al., 2008; Sainaghi, 2010b).
- Financial measures are also inadequate for measuring organization performance nowadays as the organizations are becoming more customer oriented and are aspiring to maximize the benefit from the human capital knowledge base (Kaplan and Norton, 2001).
- Finally, the financial measures reflect actions and decisions that have taken place in the past and lack future orientation, while, in fact, organizations should look for future and long term oriented performance indicators.

Therefore, since 1990s, academics and practitioners turned their attention to developing more comprehensive organizational performance management systems to overcome the aforementioned criticisms. The Balanced Scorecard (BSC) developed by Kaplan and Norton in 1992 has been considered by many scholars as the most influential multi-dimensional performance management system across the world (Rantanen, H. Kulmala, h..I. Lonnqvist, A., Kujansivu, P., (2007). The BSC combines financial and non-financial measures in a single scorecard model. The key objective of this model is to motivate the leadership team and the employees to focus on financial and non-financial indicators with the aim of achieving appropriate balance between short and long-term interests of the organizations (Elbanna, 2012).

The BSC perspectives combine both leading indicators (enablers; learning and growth and internal processes) as well as lagging indicators (customers and financial perspectives). The rationale behind these perspectives is based on the cause-and-effect relationships. As per Kaplan and Norton (2001), employees require information, competencies, knowledge and skills (learning and growth) to successfully master the true strategic capabilities (internal process) that accomplish the key objectives or deliver core value to the customers (customer), to ultimately achieve greater shareholder value (financial).

Nevertheless, the key or the core value of the organization can be easily forgotten or ignored while implementing the balanced scorecard due to having numerous measures under each perspective. To help the organization implement the strategy, Kaplan and Norton developed what is referred to as a Strategy Map in 2004 based on the BSC perspectives. The Strategy Map provides employees with clear line of sight with the

organizations goals and objectives and help employees relate their day-to-day activities with the organizational goals. Yet, the Strategy Map as a concept is not well-known in the business world nowadays.

Although the organization vision may easily answer the question of where the leadership team want the company to be, the challenge arises while implementing the BSC. Therefore, the leadership team should be more concerned about how to ensure that the organization is indeed achieving its ultimate targets. The Strategy Map might satisfactorily answer this question as it visualizes the BSC perspectives and their Key Performance Indicators (KPIs). Hence, it creates a line of sight to the employees to help them achieve the ultimate organizational goals. This is consistent with the popular wisdom that states 'a picture is worth a thousand words'.

1.2 Research Problem

Although the BSC is extensively used in various organizations, there are so many drawbacks when the leadership and execution teams move to the implementation stage leading to many failures in achieving the organizations' targets. These failures could happen due to lack of employee empowerment, failure in communicating the core value drivers and the complexity of the measures in each perspective.

As mentioned earlier, the Strategy Map (SM) has been developed based on the balanced scorecard perspectives with the aim of overcoming the aforementioned drawbacks. This map can be viewed as an effective visualization tool that helps the organization communicate and describe its strategy to the stakeholders including the employees. The Strategy Map connects the key objectives of the organization into a visual

frame that links the whole processes from the innovation and growth to customer satisfaction, customer value proposition to shareholders value accomplishment.

The SM, as a simple and effective communication tool, helps employees understand how to achieve the organization's goals without overlooking any of the organization value drivers. Hence, the Strategy Map can be perceived as a complementary tool to the BSC in order to improve the performance measurement capabilities.

In the current study, it has been decided to investigate whether Hamad Medical Corporation's (HMC) strategic plan adopt the four perspectives of the traditional balanced scorecard framework. Meanwhile, we will contemplate to propose a performance measurement scale and its potential KPIs in each perspective of the balanced scorecard to support the implementation of HMC Strategic Plan. Furthermore, we will attempt to propose a Strategy Map for HMC to visualize the BSC perspectives along with their associated KPIs.

In order to assess the existence, level of adoption and application of the BSC concept in HMC, the following two questions will be addressed in this research:

1. To what extent does HMC's strategic Plan adopt the four perspectives of the balanced scorecard framework?
2. To what extent does HMC's performance measurement scale (including its KPIs) align with the BSC perspectives and cover both leading indicators (enablers; learning and growth and internal processes) as well as lagging indicators (patient outcomes and financial perspectives)?

1.3 Outline of the Study

This study will be organized in 8 chapters excluding the appendices i.e.:

- Chapter (1) is the introduction. It is a guide for the study and demonstrates to the readers why this study is conducted.
- Chapter (2) describes the theoretical framework that has been constructed based on a comprehensive review of the previous literature.
- Chapter (3) presents the study methodology and the details of the data collection process.
- Chapter (4) presents the empirical study, which includes analysis of the internal documents and the conducted interviews. In addition, this chapter introduces a suggested proposal of the BSC and Strategy Map for HMC as an example of a real healthcare organization.
- Chapter (5) discusses the interview results.
- Chapter (6) highlights the implications of the study, the limitations the recommendations for future research and the conclusion

CHAPTER 2: LITERATURE REVIEW

2.1 Balanced Scorecard (BSC)

The concept of BSC was introduced for the first time by Kaplan and Norton (1992). Since that time, the BSC framework has become a well-known and broadly adopted performance measurement tool by many companies across the globe (Cobbold and Lawrie, 2002).

2.1.1 Basic Overview of the Development of the (BSC)

The balanced scorecard is a key component of the strategic management system of the organization. Its main target is to interpret the organization's vision and strategy into a set of measurable objectives. Hence, it is commonly perceived as a framework for strategic management and measurement. As per Kaplan and Norton (1992), the BSC concept has four perspectives: financial perspective; customer perspective; internal business (process) perspective; and learning and growth perspective (sometimes called innovation). Each of these four perspectives should be linked to the organization's strategic goals, and should contain critical success factors, key performance measures and action plans.

2.1.2 Balanced Scorecard Perspectives

The first perspective of the BSC is the financial measures. It contains indicators such as profitability, return on sales or investment, sales growth and operating income. With regard to the second perspective (customers), it emphasizes the organizations differentiation and competitive advantage from the competitors including its image, reputation, uniqueness and product features, and the services provided to the customers.

Key measures in this aspect are: customer retention rates, customer satisfaction index, and market share. The third perspective is the internal business processes that are critical to achieving financial and customer's measures and set targets. These comes under various categories which ultimately lead to achieving excellence in operation management (Kaplan and Norton, 2001). Finally, the innovation, learning and growth perspective includes the key changes, product developments, process innovation, organizational and intellectual capabilities. Fig. 3.1 illustrates these four perspectives and their main purposes.

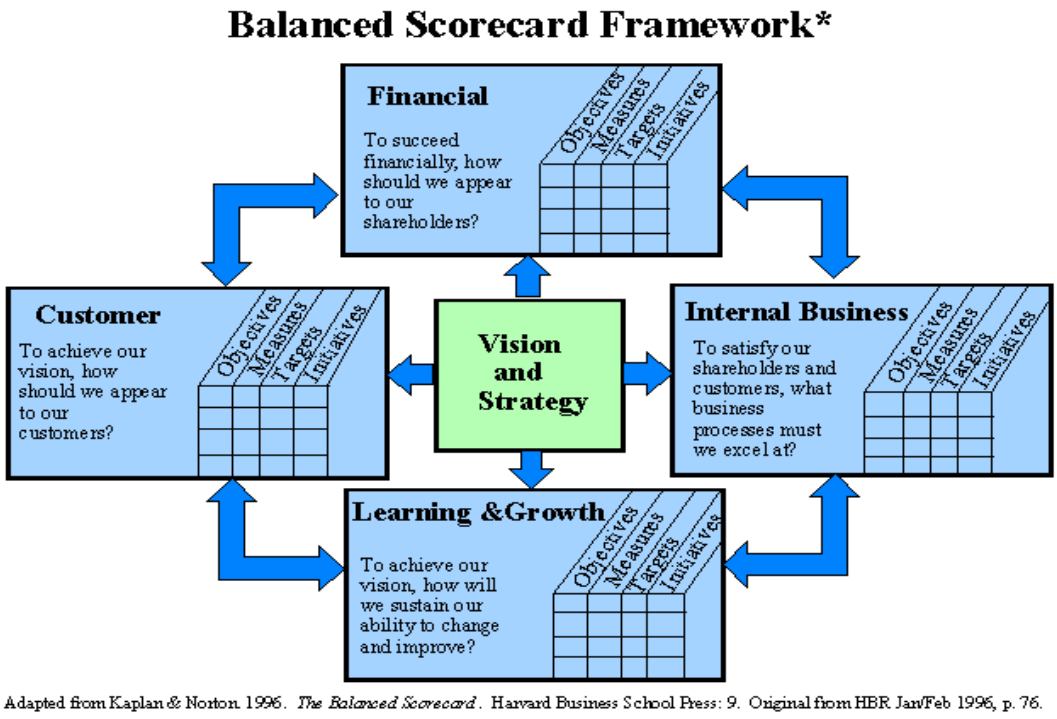

Figure 1: Typical Balanced Scorecard (Adapted from Kaplan and Norton 1996)

For the BSC to be successful, the measures related to the above four perspectives should be carefully selected and strongly connected together in a cause and effect relationship in order to achieve the targeted outcomes (Chen et al, 2011). Consistent with this view, Hoque and James (2000) highlight that the appropriate use of the BSC requires identification and selection of few strategic measures that are linked in a cause and effect relationship. This is essential to help managers to optimize processes and resources rather than improving one measure at the expense of others. Hence, to achieve appropriate balance between the four perspectives of the BSC, proper attention should be paid to all of them.

Kaplan and Norton (1996) assume that there is a cause-and-effect relationship between the organization's strategic objectives and the selected measures. Such relationship will enable the non-financial measures or performance drivers of outcomes (leading indicators) to help organization to predict the future financial/ outcome measures (lagging indicators). Nevertheless, the validity of this cause-and-effect relationship has been challenged by Norreklit (2000), who has argued that the connection between the four perspectives of the BSC may not necessarily be caused by causal relationship but rather it is a logical relation since the linkage is inherent in the concept of the four perspectives. According to Norreklit (2000), the BSC might be designed on invalid assumptions that may lead to wrong performance indicators and less optimized organizational performance. In addition, Norreklit (2000) has argued that the BSC does not provide any assurance of the alignment between the strategic plan and strategy implementation. Consequently, any shortcoming in the BSC design may result in an incomplete implementation or implementation failures (Norreklit, 2000 and 2003).

To overcome the aforementioned shortcomings, Norreklit (2000) has proposed that during the development process of the BSC, the leadership team should ensure strong connection and alignment between the performance measures and the overall organization's strategy and the allocated resources of daily operational activities. Furthermore, many studies in the literature have emerged with the objective of developing BSC that is more effective in improving organizational performance, and this has led to the evolution of a new concept of the balanced scorecard which has been regarded as a performance management system instead of a performance measurement tool (Perkins et al., 2014).

In light of the above discussion, it is intended in this research to investigate the extent to which HMC Strategic Plan adopts the four traditional perspectives of the balanced scorecard, and propose a BSC that integrates the organization strategy and main objectives into a Strategy Map that visualizes the relationships among the proposed BSC perspectives. The suggested Strategy Map aims at integrating the measurement of intangible assets into the corporation's management system and communicating the organization strategy to all employees to focus their efforts toward achieving the corporation's strategy.

2.2 Balanced Scorecard and Healthcare

In healthcare sector, effective care delivery requires offering safe, data driven evidence-based, and high-quality patient-centered care. This is a significant challenge for all hospitals across the globe as healthcare is one of the most complex industries. To be more specific, the public health sector has been considered inherently complex and most challenging sector for effective performance management (Marr and Creelman, 2011).

Therefore, implementing balanced scorecard in healthcare sector represents a significant challenge as well.

Although the BSC was implemented reasonably and quickly in various industries, its implementation within the healthcare sector is relatively slow. This can be justified, as suggested by Kocakülâh and Austill (2007), in light of the fact that healthcare organizations have historically depended mainly on nonfinancial statistics and matrix. These statistics and matrix lead healthcare managers to believe that they have tools similar to the BSC. However, those were simply list of easily collected measures that have no strong nor direct connection with the vision, mission or strategy of the organization.

According to McDonald (2012), the main challenges with implementing the Balanced Scorecard in healthcare delivery organizations are as follows:

1. Healthcare has many stakeholders such as patients, family members, medical and non-medical staff, regulatory authorities, boards, and universities.
2. Rapid increase in the cost of care and unavailability of sufficient resources.
3. Increased demand for improving efficiency, improving quality and patient outcomes.
4. Increased demand for care due to population growth and increased disease trends.
5. Achieving appropriate balance while allocating resources to long term initiatives that promote disease prevention and short-term service delivery that is always urgent.
6. There are significant shortages of qualified physicians in certain specialties and sub-specialties.

7. Implementing effective and efficient processes across the organization is a significant challenge particularly in a diversified workforce.
8. Lack of integration of the data and information that are stored in disjointed systems; clinical and non-clinical.

2.2.1 Balanced Scorecard Implementation in Healthcare

Despite all the previous challenges, many healthcare organizations have successfully implemented the balanced scorecard as one of their core management tools. These organizations have demonstrated high quality patient care as well as improvement in the community health. These organizations have used the BSC tool at the strategic level as well as at various levels that include improvement projects, care pathways and accreditation. Table 1 presents examples of healthcare providers who have implemented the BSC and presents summary of the main reasons for this implementation. These reasons range from monitoring and improving performance to whole organization integration.

Table 1: Examples of hospitals that have successfully implemented the BSC and the reasons for this implementation

No.	Hospital Name	Country	Reasons for implementing BSC
1.	The Northumbria Healthcare NHS Foundation Trust	England	To remain competitive and continue to provide high quality healthcare services. The hospital used BSC as a strategic tool in order to improve its strategic formulation capabilities (Marr and Creelman, 2010, p. 11).
2.	Emory Healthcare	Atlanta – USA	This organization has used the balanced scorecard in order to build an integrated and standardized system of its three independent hospitals during its major restructuring process. Emory' leadership team confirmed that the use of BSC was one of the reasons to success in building a unified system among the three hospitals (Bloomquist and Yeager, 2008)
3.	Hunter Area Health Service	Australia	This is a large public healthcare provider, who has used the balanced scorecard to monitor the impact of the implementation of its strategy and to prove to the public that they are getting value for the money they pay for as a tax for the government.
4.	The Mackay Memorial hospital	Taiwan	This accredited care and academic hospital has implemented the BSC as a tool to improve its competitive advantage and distinguish its services from the competitors as well as to improve communication and cooperation between staff and key stakeholders (Chang et al, 2008). This hospital has also used the BSC to provide a more comprehensive report to the board about the hospital performance.

2.2.3 The Evolution of the BSC

According to Lawrie and Cobbold (2004), there are four generations of the balanced scorecard:

- **First Generation**: Four perspectives loosely connected together (Financial, Customers, Internal Processes, and Learning and Innovation) with weak causal connections among these perspectives.
- **Second Generation**: Strategically chosen measures that are related to high level objectives. The Strategy Map visualizes the key drivers of performance and the causal relationships between these objectives.
- **Third Generation**: Strong link between the Strategy Map and the expected outcomes. Hence, performance measurement is focused on the final outcomes.
- **Fourth Generation**: The key difference between third and fourth generation is that the fourth generation of BSC is characterized by having a dedicated Strategy Management Office responsible for the development and leading the deployment of the BSC across the organizations with a specific emphasis on continuous improvement (Kaplan and Norton, 2008). In this generation, there are teams responsible for the development and deployment of each perspective.

A comprehensive review and analysis of 22 not-for-profit healthcare organizations was conducted by Gurd and Gao (2007) in order to determine whether the BSC perspectives used in healthcare are similar to those used in other industries. The writers concluded that the four standard perspectives developed by Kaplan and Norton are used as the main template for BSC implementation in healthcare with some modification to adapt the BSC to the unique situation of each organization. Gurd and Gao (2007) have pointed

out that there are two perspectives that have some differences in healthcare compared to the other sectors, which are:

People perspective: This perspective addresses the attitudes, beliefs, behaviors and competencies of clinical staff (Physicians, Nursing, Allied Health Professionals and Clinical Support staff), who are central to achieving balanced accountability for cost, quality and patient care. In other words, the autonomous culture and nature of Physicians' job and focus on long term outcomes for patients are key characteristics of healthcare that are different from other industries. Therefore, since the role of clinical staff is important to the hospital performance, people or staff should be considered an independent perspective.

Customers perspective: The importance of this perspective stems from the fact that the focus in healthcare is on the patients (i.e., the hospitals' customers) and satisfying their needs in order to ensure the achievement of the mission (Niven, 2003). Meanwhile, the hospitals should achieve an appropriate balance between community and patient satisfaction particularly in the public health program which target the entire community. In that sense, it is clear that the patient needs must be at the center of the BSC without underestimating the importance of other perspectives.

2.2.4 Key Performance Indicators in Healthcare

A very limited number of research related to the implementation of the Balanced Scorecard System in the healthcare sector have been published. As per the definition of The Joint Commission on Accreditation of Healthcare Organizations, the Key Performance Indicators (KPI) is "a measurement tool used to monitor and evaluate the quality of important governance, management, clinical and support functions" (Klazinga et al., 2001,

provide the page number, this is mentioned in the reference). In addition, Klazinga et al. (2001, provide the page number) state that “indicators should be considered as an integral part of a policy or management cycle and the ultimate purpose of all healthcare services should be the health of the community”. Therefore, the KPIs in the BSC must be carefully chosen as per the needs of the community. Extensive literature on KPIs has been conducted and its debate is out of the scope of this research. Table 2 identifies some of the KPIs used by healthcare organizations. It is worth mentioning here that the BSC may have different perspectives than the traditional model when applied to public healthcare sector.

The indicators in Table 2 are categorized into the four BSC traditional perspectives to assist in understanding and consolidating the research findings. In this essence, some KPIs might be classified in more than one perspective. For such cases, they are categorized as per the original literature that they are taken from.

Table 2: List of KPIs frequently used by non-profit healthcare organizations

BSC Perspectives	Indicators	Source
Financial	Amount of Funds Raised	(Gurd and Gao, 2007)
	Cost Per Case	(Gurd and Gao, 2007)
	Change in Cost Per Stay	(Chen, et al.,2006)
	Ratio of Operating Expenses to Revenues	(Grigoroudis, et al., 2012)
	Cost Per Patient Day	(Manville, 2007)
	Nursing Staff Productivity	(Manville, 2007)
Customers	Patient Satisfaction Index	(Grigoroudis, et al., 2012)
	Average Waiting Time	(Chen, et al., 2012), (Karra and Papadopoulos, 2005)
	Discharge Timeliness	(Gurd and Gao, 2007)
	Number of Patient Complaints	(Grigoroudis, et al., 2012)
	Percentage of Re-admission	(Karra and Papadopoulos, 2005)
Internal	Serious Incidents	(Gurd and Gao, 2007)
	Bed Occupancy Rate	(Chen, et al., 2006)
	Outpatient Per Year Per Doctor	(Chen, et al., 2006)
	Medical Error Rate	(Manville, 2007)
	Length of Stay	(Chen, et al., 2006), (Rabbani, et al., 2010)
	Employee Absenteeism Index	(Grigoroudis, et al., 2012)
	Employee turnover rate	(Gurd and Gao, 2007)
	Employee Satisfaction Index	(Grigoroudis, et al., 2012)
Learning and Growth	Publications	(Gurd and Gao, 2007)
	Continuing Education Credits	(Gurd and Gao, 2007)
	Expenditure on Medical Research	(Chen et al., 2006)
	Budget Percentage Invested in New Technologies	(Grigoroudis, et al., 2012)

2.3 Critics to the Balanced Scorecard

Although the BSC is a well-known performance measurement tool, it has some drawbacks that lead organizations to fail. The BSC is designed based on a strategy breakdown and split into different perspectives from top to down. However, in real organizations, the top leadership team are not always aware of the detailed actions and issues at the bottom of the organizations (Norreklit, 2002). Hence, this pitfall in the BSC framework results in missing important elements from the bottom part. This shortcoming in the control measures has been widely criticized for not being strongly linked to the organization's lower echelons (Norreklit, 2000).

In addition, most organizations are trapped into "measures madness phenomenon"; which reflects the belief that the measures are the vital and most important part of the BSC. These organizations continue adding more measures, as they believe that the more measures, the better the control. While, in reality, as the number of measures increase, the employees become overwhelmed and confused. Furthermore, it is well-accepted that organizations consist of different parts or organizational units that might be focusing on achieving their assigned outcomes in silos or isolation from the other organizational units. This might result in accomplishing their success and great outcomes inadvertently at the expenses of other units (Casey and Peck, 2004).

2.4 Strategy Map

Map is defined by Harley and Woodward (year, page) as “graphic illustration that assists a spatial understanding of things, processes, concepts, conditions or occasions in the human world” (Turnbull, 1989). When questions such as ‘where are we?’ or ‘which direction should we go?’ are raised, the easiest answer is by showing the map and following the direction that leads to the desired destination. Map offers a shared language that we all, as humans, are able to understand and communicate through. Map reveals the relationships between ourselves, others and the environment. The power of the map lies in its ability to combine the knowledge and the universal outlook that results in exceptional spatial impact (Lydon, 2003).

As defined by Kaplan and Norton (year, page please) “Strategy Map is our guide to achieving the organization strategy.” Defining organization strategy to create shareholder value is often easy, however, the difficult part is how to accomplish the organizational goals and objectives (Connor, 2004). The Strategy Map provides visual representation of the elements of the organizational strategy in a cause-and-effect relationship. The Strategy Map complements the BSC with a second layer of insights to the leadership team based on the four perspectives of the BSC. It provides detailed demonstration of strategy dynamics in a consistent manner that assists in establishing and measuring organizational objectives. Hence, it establishes the connection between strategy formulation and execution (Kaplan and Norton, 2004).

The strategy becomes misleading if one of the elements is missing on the Strategy Map. As per Kaplan and Norton (2004) organizations frequently do not establish link between measures related to internal processes and customer value propositions, or define

vague objectives for innovation, nor strong reason for employee motivation and employee capability building. Such lapses on Strategy Map (SM) results in unsatisfactory outcomes (Kaplan and Norton, 2004).

The SM connects the organizational main objectives in a cause-and-effect relationship. For example, the SM connects the development of staff knowledge and capabilities (learning and growth perspective) with the superior product quality (internal perspective) and customer satisfaction (customer perspective). In addition, the SM connects the objectives with the indicators in a cause-and-effect relationship (Kaplan and Norton, 2004).

At the bottom of the SM are the intangible assets; learning and growth: human capital, information capital and organization capital. Core objectives of each of these elements must be aligned with the other elements as well as internal processes. SM visualizes the link between these intangible assets with the financial outcomes. For example, providing employee with development opportunities such as training will result in improving product/service quality and positive impact on the customer satisfaction. However, the intangible assets do not create value by themselves, they must be linked with tangible assets to create these values and the SM demonstrates the connection between them (Kaplan and Norton, 2004).

In conclusion, the SM graphically demonstrates the organization's strategy in a visual manner that is easy to understand by everyone in the organization. It connects the intangible assets and core processes to the organization's value proposition and customer and financial outcomes. Figure 2 illustrates the SM on the basis of the four traditional perspectives of the BSC framework.

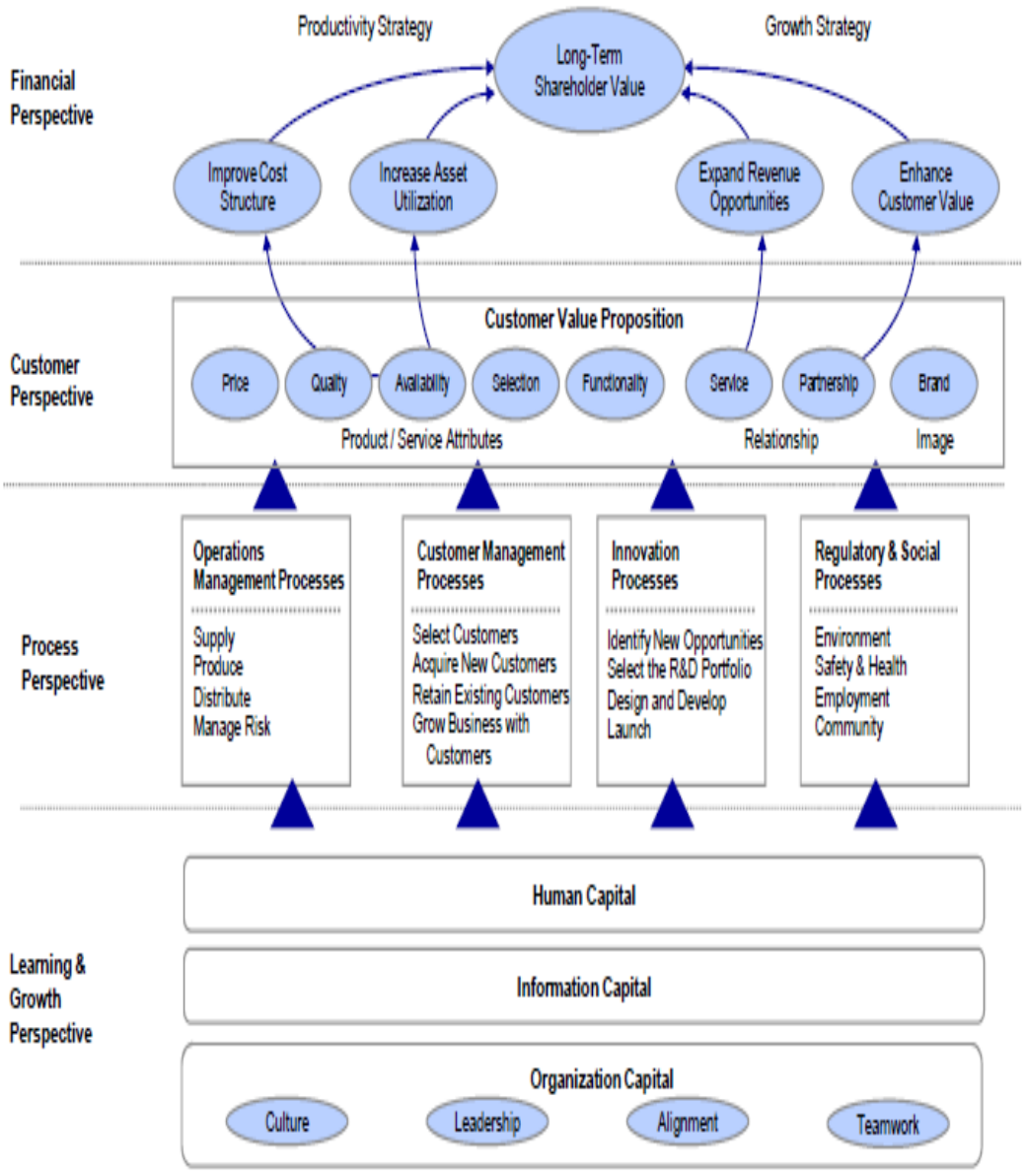

Figure 2: The Framework of the Strategy Maps, adapted from Kaplan and Norton, 2004

2.5 Combining Balanced Scorecard (BSC) into a Strategy Map (SM)

The relationship between BSC and SM is interrelated. The BSC interprets the objectives mentioned in the SM into various measures and targets. The objectives and targets are achieved through well thought and carefully implemented action plans. Figure 3 displays the measures of a balanced scorecard based on a Strategy Map, as well as the objectives of the intangible assets and the cause-and-effect linkage to the internal process (Kaplan and Norton, 2004).

As per Olve (2004), the SM is the cornerstone of the BSC. It starts with presenting clear strategy themes to all employees; a matter that will lead to provide clear measures toward the direction.

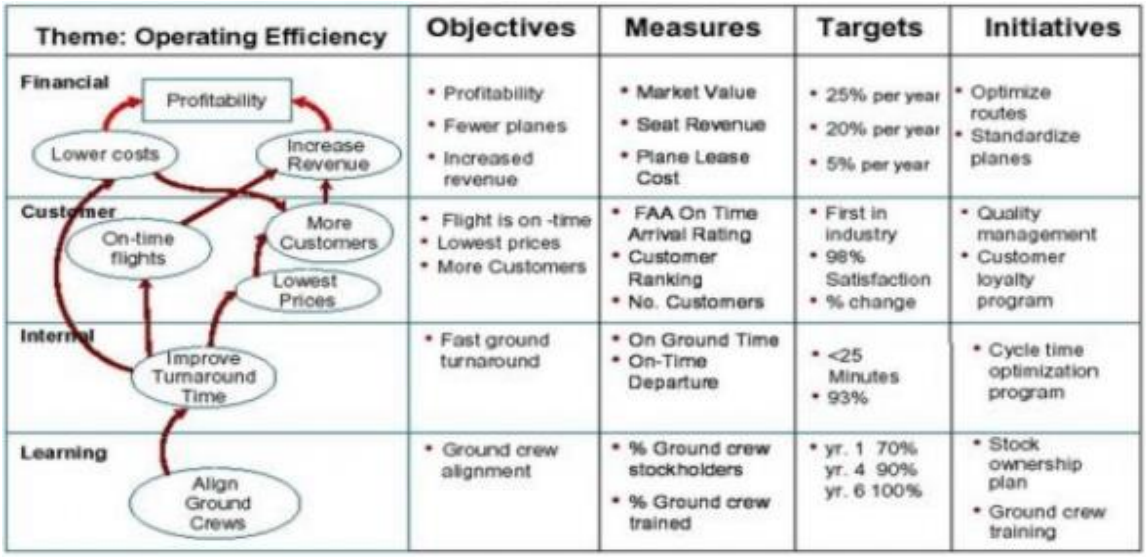

Figure 3: The interrelated relationships between BSC and Strategy Map, adapted from Kaplan and Norton (2004)

As it is previously mentioned, “a picture is worth a thousand words”. The picture is a very powerful communication tool. It creates clear line of sight of the employees’ day to day actions and the organization objectives. The SM has the power of presenting all information related to the organization’s core objectives and the interrelationships among them at “a glance”. Hence, it helps avoiding various interpretations (Valentin and Augl, 2008).

CHAPTER 3: RESEARCH METHODOLOGY

This chapter is devoted to the discussion of the selected methodology. It also presents the mechanism of the adopted data collection process in the present study.

3.1 Research Motivation

After a comprehensive review of the literature, it was found that there is a scarcity of research with regard to the design, development and implementation of Balanced Scorecard and Strategy Map in the Non-Profit Organizations in the healthcare sector. The research's interest arises from the belief that successful healthcare delivery depends mainly on the healthcare professionals and the intangible assets, who play pivotal role in creating value for patients. Hence, the researcher believes that adopting a management tool such as the Balanced Scorecard framework that is constructed based on a specific Strategy Map in a public healthcare organization will help integrating the measurement of intangible assets into the organization's management system.

3.2 Choice of the Organization

After choosing the topic, the next step was to select a suitable organization to explore the idea and its implementation in Qatar. Since there has not been any similar study in public healthcare organization in Qatar, Hamad Medical Corporation (HMC) was chosen as the research organization. HMC is the largest public healthcare organization in Qatar. It provides healthcare services to approximately 95% of the population of the country. It has 11 hospitals along with specialty clinics, education and research facilities and has ambitious expansion plans over the coming years to meet the diverse needs of the

multinational population. The organization aims to become an academic health system, providing world-class clinical care, medical education and research institute that transforms into significant clinical innovation. HMC's strategic plan aims to transform the organization over the coming years. Hence, the result of the present study can be generalized to public healthcare organizations in Qatar.

Since the researcher is currently holding a leadership position at Hamad Medical Corporation, it was decided to select this specific organization to be the main context in which the graduation project will be conducted. The researcher's aim is to propose a Strategy Map and Key Performance Indicators that could be used as a performance management system tailored for HMC. These proposals are expected to result in an effective communication and successful implementation of the corporation's strategy.

3.3 Significance of the Research

The significance of the research lies in integrating the proposed Strategy Map and its associated BSC framework into the strategic Plan of HMC. It is hoped that this initiative would assist the organizational leaders and managers in monitoring their hospitals' performance from different perspectives; financial and non-financial. In that sense, a key practical implication of this study is the development of customized Strategy Map and key performance indicators for HMC, which are expected to help leaders and managers of this healthcare institution focusing their attention and resources on the most important aspects of the organization strategy including the outcome for patients, and the tangible and intangible assets of the hospitals.

3.4 Originality/Value of this Research

To the best of my knowledge, this study will be the first attempt that focuses on applying the Balanced Scorecard and its key performance indicators in Qatar public healthcare sector, with particular emphasis on HMC.

3.5 Study Approach

There are two different research designs that are typically applied in the previous literature. These are the deductive and inductive approaches. The deductive approach is considered as a top-bottom approach as it begins with proposing a theory and narrowing it down to a hypothesis. This hypothesis is tested later by different investigators after collecting some observations and data. On the contrary, the inductive approach is a bottom-top approach since the data is collected and analyzed in the first stage and used as a basis for developing a theory. Considering both approaches, the inductive approach enables thorough understanding of the problem. It is critical to select which approach to follow. The deductive approach intends to describe what is happening while the inductive one aims at fully understanding why it is happening (Saunders et al., 2006). In this study, HMC data and information are first analyzed, then a framework for Strategy Map and KPIs are proposed. Hence, this study follows an inductive approach.

According to Yin (2003), the research strategy of the inductive approach can be divided into survey, archival analysis, histology and case studies. The suitable approach for our study is the case study as it enables a deep understanding of new concept in the real-life context. In this study, HMC is selected as the research organization. In other words, the employed methodology of the current study will rely on an exploratory case

study that includes examining and synthesizing the existing body of knowledge about the Balanced Scorecard and Strategy Map concept and exploring the prospects of applying this concept to Hamad Medical Corporation to support the implementation of its strategic plan. Additionally, this case study aims to proposing a Strategy Map for communicating the strategic plan of HMC as visual aid in the business planning and resource allocation.

In addition to researching previous related literature, the exploratory study shall include consulting academic and experts in the field from Qatar University, HMC strategic planning and performance departments and other clinical and non-clinical leaders on the Strategy Map and key performance indicators that should be applied.

According to Blumberg et al. (2005), research design is a structure of investigation in order to find answers to the study questions. Accordingly, this exploratory case study consists of 5 steps namely: research objectives, literature review, secondary or archive data collection, in-depth interviews with key stakeholders to validate the outcomes of the study, and lastly provide a number of recommendations in the conclusion section.

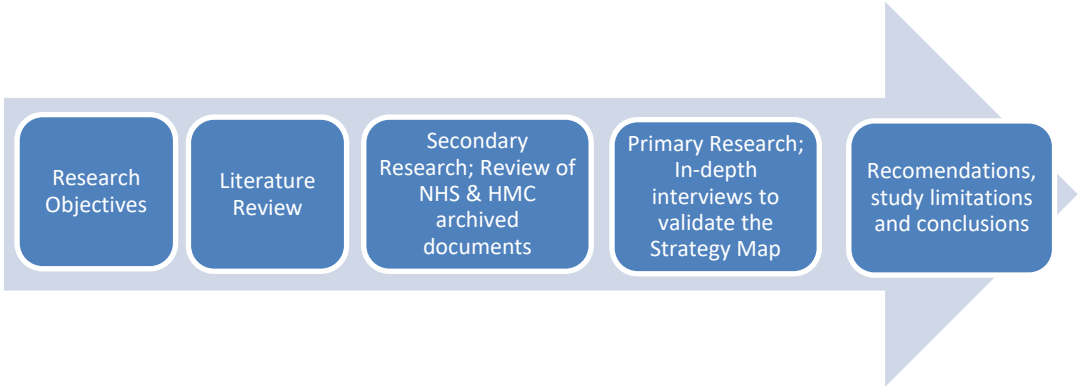

Figure 4: Research design

3.6 Secondary and Primary Data

3.6.1 Secondary Data Collection

Secondary data is the data or information that has already been collected and documented by another person, generally for other purposes (Blumberg et al., 2005). The secondary data has some advantages such as: it saves data collection time and it is cost effective. In addition, it provides easy source for high quality data usually developed by well-known organizations. The selection of approach depends on how the researcher will collect and analyze the data and should be determined based on the nature of the study topic (Saunders et al., 2006).

In the current study, the researcher begins with analyzing the secondary data that is mainly Qatar National Health Strategy, HMC strategic plan and performance measurement system. Analysis of these data shall be combined with the knowledge gained from the literature review. The information collected from analyzing the secondary data shall be the base of proposing Strategy Map and Key Performance Indicators for HMC.

3.6.2 Primary Data

Primary data is the collection of data that is exclusive to the specific study and has never been researched by others before. There are different methods for collecting primary data. The commonly used ones are the in-depth interviews, administering questionnaires, and case studies. (Saunders et al., 2006).

In the present research, the key approach to primary data collection is the in-depth face-to-face interviews. The target population of the study are the leadership team from HMC. Therefore, the targeted interviewees are the leaders of Strategic Planning and Performance Management, Business Intelligence, Human Resources, Accounting and Finance, Healthcare Information System as well as the leaders of Clinical areas; Physicians, and Nursing and Clinical Support.

3.7 Quality of the Research

The qualitative research quality is determined by its reliability and validity. As per Patton (2002), the validity and reliability are key aspects that investigator should be mindful about during the design of the research and analysis of the results.

As per Joppe (2000), reliability is the degree to which the results are consistent over time and takes into consideration a perfect representation of the total population under investigation. If the results of a study can be reproduced under comparable methodology, in that case the research instrument can be considered reliable. In the current study, the researcher tried his best to ensure the reliability of the obtained results through identifying representative sample of the participants from HMC leadership team, conducting pilot study prior to the in-depth interviews.

To ensure reliability of the employed method, a carefully worded in-depth interview list of questions is developed, piloted with 3 professors at Qatar University and four leaders at HMC. Careful provision to ask open-ended questions is considered to obtain respondents' views and opinions and capture them in their own words. Each interview will last approximately between forty-five minutes to one hour.

Validity refers to whether the research truly reflects the best view of the investigated problem. In this study, the validity can be confirmed by the fact that the findings are widely supported by the literature mentioned in this study. To improve validity, nearly ten to fifteen interviews will be conducted. The participants in the interviews should be involved in the strategy implementation process or performance management in HMC. It would be valuable to interview leaders, with both clinical and non-clinical backgrounds, at various departments. The flexible interview structure has both common and unique questions to be inquired. The researcher will use open-ended questions tailored to the specific department in which the participant is working at (i.e., clinical versus non-clinical). In addition, during the in-depth interview, the researcher will use unstructured interviews to clarify certain queries from the interviews.

3.8 Strategy Map Designing Process

According to Kaplan (2001), when applying the SM to a non-profit organization, it must be adapted to reflect the organizational context. In the present case study, the financial perspective is perceived by HMC as a constraint rather than an ultimate goal. Hence, this difference in the SM can be clearly demonstrated in the proposed SM for HMC as illustrated in Figure 5.

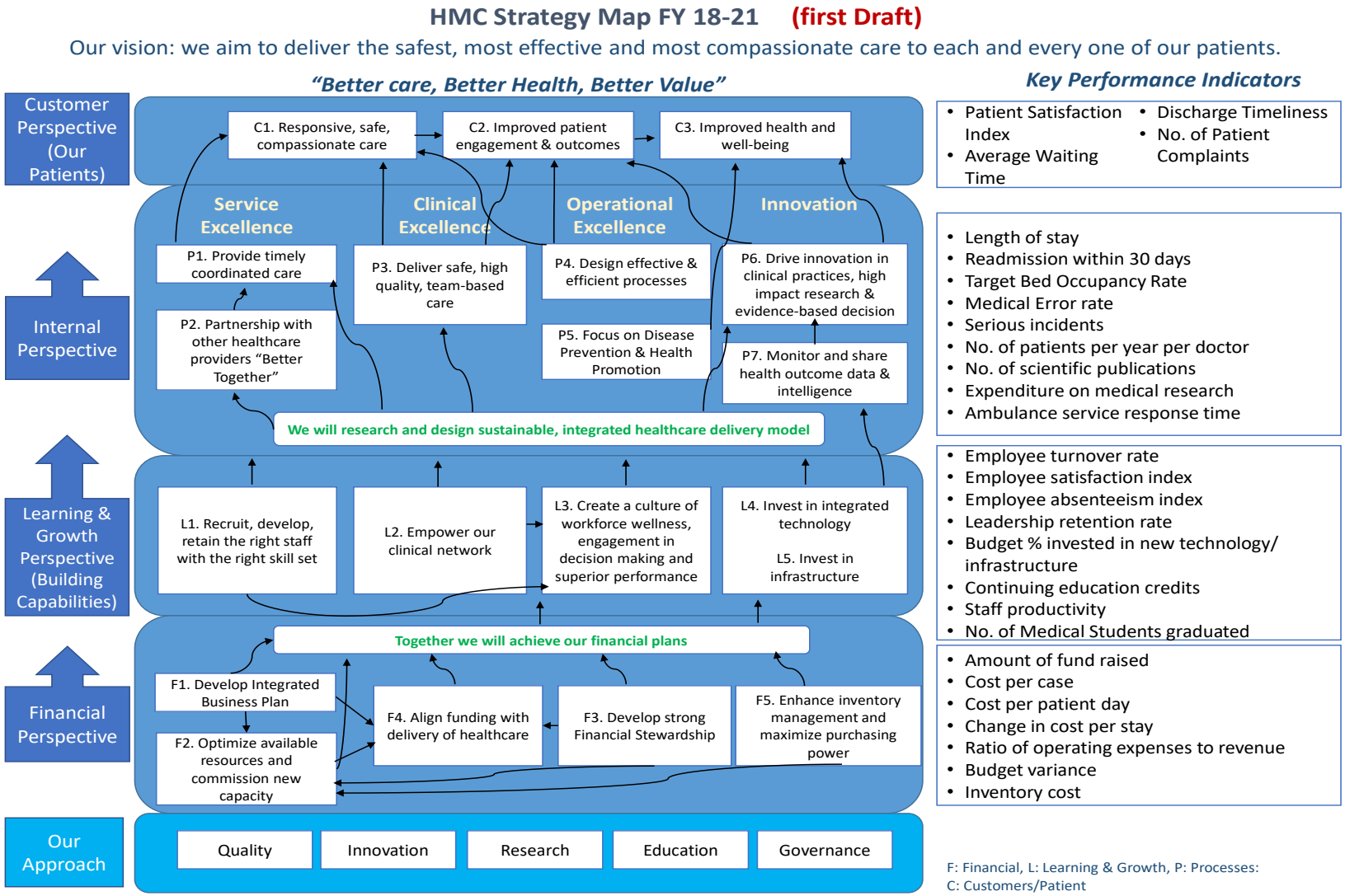

Figure 5: Proposed Strategy Map for HMC

As it is illustrated in Figure 5, there is a number of changes in the new strategic plan of HMC that should be taken into consideration in order to come up with a customized Strategy Map that reflects the new HMC's strategy. For example, the official vision of HMC is displayed on the top of the SM as follows: "We aim to deliver the safest, most effective and compassionate care to each and every one of our patients". In addition, the triple aim of the National Health Strategy is stated as follows: "Better Care, Better Health, Better Value".

Furthermore, the stakeholder perspective is presented below the mission and the triple aim as the most important perspective to achieve HMC vision. The stakeholder perspective is then connected with the internal perspective to indicate the importance of having good processes and practices in place to satisfy stakeholders' needs. The latter perspective is followed by the learning and growth perspective to indicate the importance of investing in people, technology and shaping the right culture and mindset. Finally, the forth perspective is the financial one, which indicates that this perspective is a constraint not an ultimate goal for HMC. Hence, the proposed Strategy Map can be viewed from the bottom to the top as follows; if financial resources are available and well managed, these resources can be invested in learning and growth to proactively attract, retain and develop the right staff with the right competencies as well as creating the right culture. If investment in learning and growth resulted in establishing new processes and improving the existing ones, satisfying stakeholders needs will be automatically realized. Hence, HMC vision will be achieved.

The next step in designing the Strategy Map is to identify the key objectives for each perspective. This will be done through reviewing HMC Strategic Plan for 2011-2018, and through asking the following questions:

1- To achieve HMC vision, how must we appeal our customers?

There are five objectives that should be achieved in order to meet the expectations of HMC's customers. The first one is "having responsive, safe, compassionate care". This implies a reduction in patient waiting time to get access to care and to be discharged quickly after care is completed. The second objective is related to improving patient engagement and outcomes. This indicates improving patient satisfaction and overall treatment outcomes. The third objective is related to improving health and well-being. This means improving public health of the population. The forth objective is related to enhancing community partnership & engagement. This requires involvement of the community in decision making process within HMC and care design and community events. The last objective is focused on enhancing partnership with all HMC stakeholders including government ministries, private organizations, sponsors, partners, patients, families, students, and employees as well.

2- To satisfy our customers, which processes must we excel at?

The response to this question is addressed in the internal perspective, which included seven objectives. The first objective is to design efficient and effective processes which will lead to the second objective that is to provide timely coordinate care. These two objectives are interlinked with the third objective of having close partnership with other healthcare providers. These three objectives will lead to the forth objective of delivering safe, high quality, team-based care. The fifth objective is focused on disease prevention &

health promotion through several educational and awareness campaigns in the community. The sixth and seventh objectives are interrelated as monitoring and sharing health outcome data and intelligence is supposed to drive innovation in clinical practices and improve the outcomes of the future research and the decision-making process.

3- To satisfy our customers, how should we invest in our people, technology and infrastructure?

The first objective included in the learning and growth perspective is to "recruit, develop, retain the right staff with the right competencies" as people are the cornerstone in the delivery of care. The second objective in this perspective is "empowering our clinical network". Since HMC is a large organization with many departments and specialties, empowering clinical network will contribute to knowledge sharing and consistency in the quality of care. The third objective is to "create a culture of workforce wellness, engagement in decision making and superior performance". The fourth and fifth objectives are related to investment in infrastructure and technology. The infrastructure includes building, equipment, materials and medicines.

4- To satisfy our customers, how should we manage our financial resources and secure enough funds to invest in learning and growth aspects in order to create efficient and effective processes?

As mentioned earlier, the financial perspective in the current case study is a constraint rather than a goal and this situation is different from that is of the profit-seeking organization. This major different is reflected in the five key objectives of the financial perspective in the current investigated case study. The first objective is related to "developing integrated business plan". Since HMC is the largest health organization in the

country, having strong integration in the planning process is very vital to successfully achieve the organization's vision. The second objective is "making the best use of the available resources and commissioning new capacity" in order to respond to the population growth and the increase in demand for care. It is worthwhile mentioning that commissioning new capacity is a terminology widely used in healthcare industry. The third objective in this perspective is the "alignment of funding with the delivery of healthcare". The final objective is focused on "developing strong financial stewardship" to properly manage the available resources.

After answering these questions, the first draft of the proposed Strategy Map is developed as attached in appendix (A). The next step was to develop the associated key performance indicators and conduct the pilot study.

3.9 Pilot Study

It has been established that the success of conducting the interview survey depends mainly on the widespread agreement about the meaning of the chosen terminologies (Seale, 1999). Therefore, the interview questions and the proposed Strategy Map of this study was piloted to explore any variability in the meanings. Prior to conducting the in-depth interview survey, there were two stages as follows:

Stage 1: After a comprehensive review of the literature, the first drafts of the proposed Strategy Map, KPIs and the interview list of questions were prepared. These drafts were shared with three professors at Qatar University, who are involved in researching and teaching BSC, SM and KPIs. Based on the feedback received from this stage, several changes were made to the first drafts of the interview questions as well as

the proposed Strategy Map and its associated KPIs.

Stage 2: Since the study was to be conducted in HMC, the revised version of the interview list, the proposed Strategy Map and the suggested KPIs was shared with four members of the leadership and management team from HMC. Several comments were received on the wording and sequence of questions and whether the questions make sense. Some other comments were on the classifications of the perspectives and the objectives in the Strategy Map. The purpose of this stage was to make sure that the interview questions and proposed Strategy Map would be understood by different types of participants in HMC. Below are two lists of participants in the pilot study from both Qatar University; Table 3, and from HMC; Table 4.

Table 3: List of participants in the pilot study from Qatar University

Sr. No.	Organization	Job Title	Interview date	Duration
1	Qatar University	Professor of Management	4th of March	30 minutes
2	Qatar University	Associate Professor of Accounting	4th of March	30 minutes
3	Qatar University	Associate Professor of Accounting	5th of March	30 minutes

Table 4: List of participants in the pilot study from HMC

Sr. No.	Organization	Job Title	Interview date	Duration
1	HMC, Corporate Nursing	Executive Director of Nursing	7 March	30 minutes
2	HMC, Planning & Performance	Deputy Chief of Planning & Performance	7March	60 minutes
3	HMC, Hamad General Hospital	Assistant Executive Director of Business Development (for Physicians)	7 March	30 minutes
4	HMC, Health Planning and Programs	Executive Director of Business Intelligence	7 March	30 minutes

In general, the outcomes from these two stages were found to be valuable for improving the quality of the initial list of the interview questions, proposed Strategy Map and KPIs. Several questions were redrafted as suggested by the participants in the pilot study. There was broad consensus among the participants to exclude the cause-and-effect from the scope of the study since it is argued by several participants that investigating this effect will complicate the study, and given that HMC does not have an agreed-on Strategy Map in place. It was also suggested, during the pilot study, to change the Customer Perspective to Stakeholders Perspective as HMC stakeholders are not limited to patients but they also include patients' families, employees, government institutions, private organizations, and wider community of people living in Qatar. Hence, two more objectives were added under this perspective; namely: "Enhanced community partnership & engagement" and "Enhanced partnership with Government Ministries". It was also suggested to change the name of Financial Perspective to Financial Resources Perspective

as this is more relevant to HMC. In addition, it was widely agreed by the participants in the pilot study that the Financial Resources Perspective should remain in the foundation of the Strategy Map as HMC, being a non-profit organization, is mainly dependent on the financial resources provided by the Qatari Government, and because of the fact that the implementation of HMC strategy and initiatives is primarily based on the availability of approved budget. This, of course, is on contrary to the case of the profit-seeking organizations where the profit maximization is at the top of the Strategy Map as an ultimate goal.

Moreover, it was suggested to move the objectives of "Develop an Integrated Business Plan" and "Enhance inventory management and maximize purchasing power" form Financial Perspective to Internal perspective as they are more related to the internal processes. Similarly, it was recommended to move the objectives of "Invest in infrastructure and integrated technology", "Monitor and share health outcome data & intelligence", and "Drive innovation in clinical practices, high impact research & evidence-based decision" from Internal Perspective to Learning and Growth as they are more related to building organizational capabilities, Research and Innovation. Additionally, it was suggested to change the objective of "Empower our clinical network" to become "Empower our staff, our Qatari Nationals and clinical networks" as the latter objective is more broader and extend the empowerment to all HMC employees so that they all contribute to the implementation of HMC strategy. Likewise, it was suggested to change the objective of "Create a culture of workforce wellness, engagement in decision making and superior performance" to "Create a culture of workforce wellness, accountability, compliance & superior performance" as the engagement in decision making is covered in

the objective related to empowering our staff and to place more emphasis on the governance and accountability since these two qualities are among the principal priorities for HMC.

CHAPTER 4: EMPERICAL CASE STUDY

The main objective of this chapter is to provide the empirical description of the investigated case study that leads to the development of the proposed Strategy Map and its associated KPIs for HMC. This chapter starts with brief descriptions of the national context, National Healthcare Strategy, and the strategic plan of HMC. Then, this chapter outlines the data collection process and the results of the in-depth interview survey.

4.1 The National Perspective

4.1.1 Qatar National Vision for 2030

The National Vision 'builds a bridge' to the future of Qatar based on the four pillars of human development, social development, economic development and environmental development. Hamad Medical Corporation (HMC) has a significant contribution to the pillar of human development through the development of a world-class integrated healthcare system with the aim of improving and sustaining the health of current and future generations. The Qatar National Vision emphasizes the importance of respecting Qatari culture and values. HMC as well as other government agencies are expected to make continuous improvements in terms of efficiency, transparency and accountability.

4.1.2 The National Development Strategy

The National Development Strategy elaborates on how the National Vision will be achieved. It describes the challenges and plans for dealing with these challenges The National Strategy is built around sector strategies. The National Health Strategy is one of

those sector strategies.

The new National Health Strategy (2018-2022) was released at the beginning of April 2018. Fortunately, the researcher managed to get access to it and include the relevant parts into this research as the National Health Strategy shapes the future and Strategy Map of HMC. The National Health Strategy (2018-2022) describes the key activities and outcomes necessary to achieve the National Vision's ultimate goals for the health in Qatar. It calls for:

a) A comprehensive world class integrated healthcare system offering high quality services, which are effective, affordable and accessible to the whole population.
b) Preventive healthcare.
c) A skilled national workforce.
d) A national health policy that sets and monitors standards.
e) High-caliber research.

The Ministry of Public Health; the owner and Director of Qatar National Health Strategy, accounts for HMC, as the biggest healthcare provider in the country, not only to implement the Strategy but also to advise on its continuing design and development. In that sense, HMC leaders play a central role in the successful implementation of the National Health Strategy.

4.1.3 The National Health Strategy Vision

The National Health Strategy Vision as mentioned in the (2018-2022) health strategy is stated as follows:

Our Health, Our Future "Improved health for Qatar's population, meeting the needs

of existing and future generations".

4.1.4 Key Challenges

There are key population health and health system challenges in Qatar. Therefore, it is essential to determine these key challenges to focus the efforts and resources in addressing them. Figure 6 summaries these key challenges as follows.

Figure 6: Key population health and health system challenges (adapted from the Qatar NHS 2018-2022)

In order to address these challenges, as mentioned in the National Health Strategy (2018-2022), the healthcare organizations should focus on improving the population health with particular emphasis on disease prevention and population wellness through an integrated system and model of care.

4.1.5 Approach to Addressing the Key Challenges

The new National health Strategy (2018-2022) introduces a number of significant shifts from that of (2011-2016) as follows:

- Shift from focusing on disease to focusing on health of the population.
- Shift from focusing on acute and episodic care to integration, continuity and strong focus on primary care as well as home healthcare
- Shift from perceiving healthcare cost as a financial burden to be considered as an “investment in the future”.
- Shift from perceiving population as a passive recipient of healthcare advice to be empowered individuals taking control of their own health.

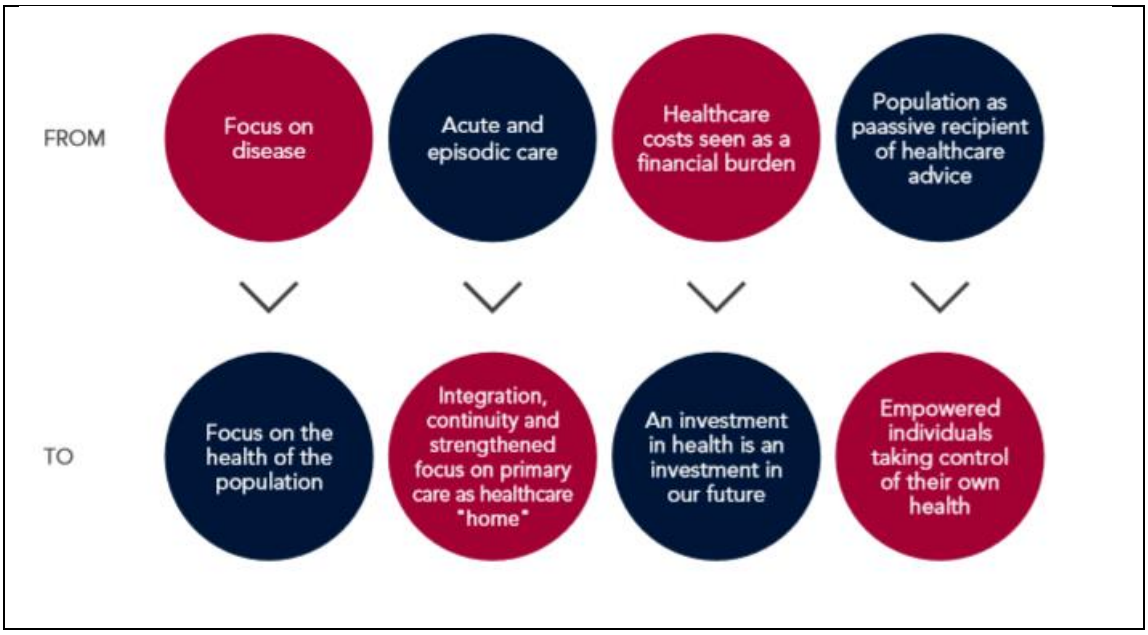

Figure 7: Qatar National Health Strategy shifts (adapted from the Qatar NHS, 2018-2022)

In light of the above significant shifts, the new health strategy will entail substantial investment in time and resources as well as leadership and employees' commitment. In addition, it requires integration and collaboration with all organizations in the health sector including public organizations, the private organizations, government institutions, and the whole community.

4.1.6 Triple Aim; Better Health, Better Care, Better Value

The Triple Aim is an internationally well-known standard that supports Qatar National Health Strategy of (2018-2022) as well as many other advanced health strategies across the globe. This is the approach that health sector in Qatar will focus on to implement the new strategy. Below is a summary of what lies under each target as adapted from the National Health Strategy (2018-2022).

Better Health:

Health and quality of life of the population in Qatar should be improved through an integrated system of care that works in partnership to determine and handle people's healthcare needs.

Better Care:

An integrated and coordinated patient focused, high quality care, available closer to patient homes either in healthcare facilities or provided to patients at their own homes.

Better Value:

To achieve an effective and efficient healthcare system, this system should deliver value of money for patients. In that essence, the patients should believe that the care services provided to them is cost effective and of high quality at the same time.

4.2 Background of Hamad Medical Corporation (HMC)

HMC is the main public healthcare provider for the State of Qatar. The Corporation manages 11 hospitals in addition to other specialist clinical, educational and research facilities. HMC is increasing its capacity to serve the diverse healthcare needs of the population in Qatar. HMC aims to become an academic health system; "a world leading center of excellence in clinical care, medical education and research that transforms into significant clinical advancements". HMC believes in delivering excellent healthcare, outstanding education and research in order to achieve a world-class quality patient care in a safe and curing environment.

HMC has three general hospitals located in areas where the population is mostly concentrated. In addition, the corporation also manages eight other specialist hospitals, looking after patients with the most dominant conditions; these include cancer, heart conditions, rehabilitation, communicable disease, ambulatory care, mental hospital and women hospital. HMC also operates the Ambulance Service throughout the country and a home healthcare service.

HMC is the first public healthcare organization outside USA that managed to accomplish Joint Commission International (JCI) accreditation for all hospitals at the same time. JCI accreditation is based on the quality and safety across all clinical and management areas. HMC is also the first healthcare organization in the Middle East that has been awarded an institutional accreditation from the Accreditation Council of Graduate Medical Education- International (ACGME-I). The ACGME accreditation indicates excellence in training and education provided to HMC medical graduates from Residency, Internship and Fellowship Programs.

4.2.1 HMC Strategic Plan for 2013-2018

HMC has developed a formal five-year strategic plan in 2013. This plan outlines the corporation transformation journey. The key organizational priorities mentioned in this plan are:

1. Building organizational capabilities and capacities.
2. Improving the quality of care.
3. Building the academic health system.

4.2.2 HMC Strategic Concept for Organizational Transformation

- Patients are at the heart of HMC transformation journey; HMC commitment is focused on patient care.
- Adoption of three key principles: evidence-based decision-making; integration of efforts; and focusing on improvements.
- HMC is integrated healthcare system located on multiple sites.
- Collaboration: clinical leadership supported by expert administrative staff and hospital leadership team.

4.2.3 HMC Vision

"We aim to deliver the safest, most effective and most compassionate care to each and every one of our patients."

4.2.4 HMC Strategic Objectives

Below are the three core objectives outlined in the HMC strategic plan:

1. Clinical strategic objective: deliver the best and safest integrated, patient-centric and multi-disciplinary clinical care system in the region.
2. Research strategic objective: HMC should be recognized as the leading health research organization in the region.
3. Education and Development strategic objective: HMC workforce should be fully equipped with the right number of people, equipped with the right skills and motivation to deliver world-class healthcare and research.

In addition to the aforementioned core objectives, the plan includes five more enabling objectives as follows:

1. HR strategic objective: HMC should become the employer of choice for the best clinicians, biomedical scientists and all other healthcare professionals.
2. The Information Systems strategic objective: every aspect of the Corporation's work should be enabled and supported by access to the relevant, high quality, secure, and timely data and information.
3. The Facilities strategic objective: HMC operates state-of-the-art facilities, which should support the delivery of clinical excellence.
4. The Community Engagement strategic objective: HMC should be widely recognized to be an organization, which engages with patients and the wider community and responds to their needs on time.
5. The Organizational Capabilities strategic objective: HMC should be optimally structured, managed and governed.

4.2.5 Performance Measurement in HMC

HMC, like most other healthcare organizations, places significant emphasis on the performance measurement. HMC has quarterly comprehensive dashboard for the key activities across the organization. Most of the indicators included in the dashboard are related to internal processes, quality and customers. In addition, there is a dashboard for each hospital that shows comparative activities across HMC hospitals. It also has quarterly targets to achieve. These indicators are presented in Table 5. The researcher attempted to classify these indicators according to the BSC traditional framework perspectives.

Table 5: List of KPIs adapted from HMC Dashboard

KPIs	BSC Perspective
Referral to first seen within 48 hours including (Cancer)	Customers
From first seen to diagnosis within 14 days including (Cancer)	Customers
From Diagnosis to first treatment within 14 days including (Cancer)	Customers
Postoperative PE OR DVT Rate	Internal Process
% Women undergoing G Anesthetic for CS	Internal Process
% Lab results completed in less than 60 minutes	Internal Process
Occupancy rate	Internal Process
% Cancelled elective surgeries	Internal Process
Patient falls rate	Internal Process
Average length of stay	Internal Process
Average pre-operation length of stay	Internal Process
Day case rates	Internal Process
Day case rates non-surgical	Internal Process
Ambulance service response time	Internal Process
% Compliance with hand hygiene	Quality
Surgical site infection rate	Quality
% Compliance with surgical safety checklist	Quality
Blood culture contamination rate	Quality
Blood and body fluid staff exposure rate	Quality
Turnover rate	Learning & Growth

4.3 Validating the Proposed Strategy Map and KPIs for HMC

After gathering the background information about HMC along with its strategic plan and performance management system, the next step is to validate the proposed Strategy Map (SM) and the associated KPIs. This has been done through an iterative process that involved key leaders and managers from HMC throughout the validation process. As mentioned earlier in the methodology chapter, the pilot interview is conducted with three professors from Qatar University and four leaders from HMC. The pilot interview questions and proposed SM is included in (Appendix B).

Secondly, the in-depth interviews were conducted with 12 leaders and Senior Managers from HMC. The interviewees were selected from various hospitals and departments across HMC to ensure that different thoughts and insights from most of the areas are covered in the study. The following table 6 includes list of the participants' positions and the hospitals/departments they belong to.

Table 6: List of participants in the in-depth interview from HMC

Sr. No.	Hospital/ Department	Job Title	Yrs. of service with HMC	Interview date	Interview Duration
1	HMC Corporate	Chief Quality Officer	2 years	11th Mar	30 minutes
2	Human Resources	Chief HR Officer/HR Advisor	20 years	12th Mar	60 minutes
3	Corporate Nursing	Chief Nursing Officer	1 year	13th Mar	30 minutes
4	HMC Corporate	Assistant Executive Director of Business Development	4 years	13th Mar	45 minutes
5	Heart Hospital	Executive Director of Business Development	7 years	15th Mar	60 minutes
6	Quality Department	Assistant Executive Director of Business Development	5 years	19th Mar	60 minutes
7	Planning & Performance	Deputy Chief of Planning & Performance	4 years	21st Mar	30 minutes
8	Strategic Planning	Assistant Executive Director of Business Development	17 years	21st Mar	60 minutes
9	Health Information & Communication Department	Director of HICT	20 years	22nd March	60 minutes
10	Ambulance Services	Chief Executive Officer	8 years	26th March	30 minutes
11	Corporate Nursing	Executive Director of Nursing	6 years	26th March	30 minutes
12	Health Planning and Programs	Executive Director of Business Intelligence	7 years	26th March	30 minutes

As a first step, the researcher sent an email (Appendix A) to the targeted participants to inform them about the research purpose and methodology and to seek their cooperation. Interviews were scheduled with the targeted participants, who showed interest in the study. The interview questions and Strategy Map were sent to the participants four days prior to the interview. Some of the participants provided all their feedback during the interviews and others requested few days and provided more feedback after the interviews. Table 7 presents examples of the received responses from people invited to participate in the in-depth interview survey from HMC.

Table 7*:* List of the examples of the received responses from people invited to participate in the in-depth interview survey

No	Response	From
1.	"I am happy to help as much as I can. I have created many scorecards in my career and when we meet up, I will show you the one that I created for surgery at HMC".	Assistant Executive Director of Business Development, Surgical Services at Hamad General Hospital
2.	"Of course, I would be delighted to help. I have copied in the Secretary to set up the interview in my diary".	CEO of the Ambulance Services
3.	"This endeavor sounds interesting to me. Yes, very happy to help. I will ask the Secretary to kindly schedule a meeting".	Executive Director of Nursing, Corporate Nursing
4.	"I would be delighted to help. I will ask my Assistant to contact you to set up a meeting on one of the dates you have suggested".	Executive Director, Heart Hospital

4.3.1 In-Depth Interview Results

The in-depth interviews have two main objectives; validating the proposed Strategy Map and providing feedback about the proposed KPIs to measure the achievement of objectives that are mentioned in the Strategy Map. The first round of interviews was conducted with twelve leaders and senior managers from HMC and it was focused on validating the proposed Strategy Map only. After the revised Strategy Map was developed, the proposed KPIs were discussed with nine of the initial interviewees, who have expressed their interest in validating the KPIs in the second stage. Those nine interviewees are mainly involved in monitoring the performance at corporate and hospital levels. It is worth mentioning here that the responses and insights of the interviewees were noted during the interview and summarized by the researcher after the end of each interview. Conclusions were made based on the most common opinions as it will be highlighted in the following sub-sections.

4.3.2 Validating the Proposed Strategy Map

All participants have agreed with the proposed Strategy Map and provided some additional suggestions to improve it further. Their suggestions are summarized as follows:

As for the principal priorities, it was suggested to combine the research and innovation together in one box since they are closely related to each other and both are key priorities for HMC. In this respect, one participant mentioned that “if we focus on education and research, we will have better care”. This suggestion was agreed by all participants. Similarly, it was also recommended to add accountability to the governance since both of them are key success factors for HMC. One participant commented on this

issue by stating that “governance and holding people accountable are great things to focus on. In addition, proper determination of all objectives in this Strategy Map and reporting on them through clear KPIs are absolutely important to the achievement of our strategy”. Another participant commented on the importance of governance by emphasizing that “governance is a mechanism. It outlines the boundaries to govern research. For example, we should encourage people to do genetic research but they should not clone people”.

The interviewees also suggested adding safety to quality since both of them would result in excellent healthcare delivery. Lastly, they also suggested to add one more priority, which is called “Clinical Outcome” as the ultimate goal of the organization. This priority is expected to lead to an improvement in the patient outcomes.

In regards to the financial resources perspective, all participants agreed that the financial resources should be placed at the foundation of the Strategy Map as a constraint rather than a goal; a matter that is different from the profit-seeking organization. All the participants agreed that optimizing available resources and developing strong financial stewardship are key factors to the HMC success, particularly when the medical insurance model is introduced. According to this model, HMC will be paid based on the services delivered and the government will expect HMC to be self-funded rather than relying on the government for funding. Two of the participants commented that every dollar should be directed toward improving healthcare and outcomes as the financial situation will become tighter when the medical insurance system is implemented. They all agreed that in the healthcare organization, prioritization of fund allocation should be aligned with the delivery of care which is covered under the second objective of this perspective. Also, they all agreed that commissioning (opening) new capacity is a very important objective and

commented that this objective needs to be aligned with the population growth in the country. Four of the participants commented that employees should be accountable for effective and efficient use of resources. Apart from the above comments, none of the participants feels that there are other key objectives missing or irrelevant under this perspective.

As for the learning and growth perspective, eleven participants agreed that objective No. (3) should be read as "Empower our staff" without the need to emphasize on Qatari Nationals and clinical network. Those participants commented that all employees should be empowered to make difference, but at the same time, they should be accountable as well. The participants also emphasized that there should be special development plan for Qatari Nationals to fast track their progress and provide them with promotion opportunities as soon as they become ready to take the new roles. Only one participant mentioned that there should be focus on the clinical network. This view was challenged by one participant who mentioned that clinical network is a management function and should be addressed through structure and governance arrangements.

In the meantime, all participants commented that teamwork is very important in the delivery of care and should be included under this objective "Empower our staff" Therefore, this objective is redrafted in the final version as "Empower our staff and promote teamwork" based on the consensus among most of the participants. One of the leaders commented that "we need to empower our staff to make positive change and innovate. Staff should be given confidence that if they make mistakes, they should consider it an opportunity to learn from. However, staff should not repeat the same mistake in the future". Another participant mentioned that "we would like our people to learn from their

mistakes and avoid committing them again in the next time".

One of the participants suggested to redraft objective No. (5) from "monitor and share health outcome data and intelligence" to "monitor and share data, information and intelligence". This suggestion has been agreed by eight other participants. One of the participants commented that "totally agree. We need to monitor actionable data and share it with the relevant people to enable them to make evidence-based decision". Another participant commented that objective No. (4) "Invest in infrastructure and integrated technology", objective No. (5) "Monitor and share data, information & intelligence" and objective No. (6) "Drive innovation in clinical practices, high impact research & evidence-based decision" are all connected in a cause and effect relationship. The latter participant stated that "the culture of reporting mistakes and the root cause of the mistakes should be encouraged. Such culture is strongly imbedded in the aviation field. I hope that the culture of the medical field will be the same". Another participant highlighted that "we need people who can challenge the status quo and make transformational change". This participant also mentioned that "though rules are important but these rules should not be obstacle to improve the organization nor make it impossible for people to do their jobs in a better way".

As far as the internal perspective is concerned, only two participants mentioned that "enhancing inventory management and maximizing purchasing power" is not a key priority for HMC. However, all the other participants agreed that this objective should be among HMC priorities as it is part of good management of resources. Hence, this objective is maintained in the final version of our Strategy Map. One of the participants suggested to redraft the objective "Develop integrated business plan" to "integrated business development and transformation" since it is broader than integrated business plan. This

proposal has been agreed by nine other participants and, therefore, this objective has been included in the final version. In this regard, one of the participants commented that "indeed, I totally agree that we need rigorous integrated process for business development and transformation to make sure that we are not duplicating our service provisions". In addition, one of the participants suggested to combine objective No. (1) "Provide timely coordinated care" and objective No. (2) "Deliver safe, high quality, team-based care" into one objective that is read as "Deliver timely, safe, high quality team-based care". This suggestion has been supported by nine other participants and, therefore, it is reflected in the final version of the Strategy Map.

It has been also believed by one of the participants that having robust data, clear structure and effective and efficient processes in addition to leadership and teamwork will lead to better outcomes. In that sense, another participant commented that "Delivering safe, high quality team-based care is a key objective to us. If we invest in quality improvement, the total care cost will be reduced automatically".

Furthermore, it has been suggested by only one participant to add additional objective related to designing "effective and efficient HR processes". Nevertheless, it is found that this suggestion has been already covered under objective No. (3) that is entitled "Design effective & efficient processes" and it applies to all processes in the corporation. It is worth mentioning here that all participants agreed that focusing on disease prevention is a very important objective and the existence of this objective will lead to improving health and well-being of the community that is mentioned under the stakeholder perspective.

Lastly, as for the stakeholders' perspective, all participants agreed that objective No. (5) should be redrafted from "Enhanced partnership with Government Ministries" to "Enhanced partnership with our stakeholders". This modification could be interpreted in light of the wide range of stakeholders related to HMC which includes government ministries, private organizations, sponsors, partners, patients, families, students, as well as employees. One of the leaders in HMC commented that "community partnership and engagement is really a key factor to our success. Public awareness and consensus about our services are really important for us". Another participant stated that "Patient outcomes are our ultimate objectives".

Only one participant suggested to place the stakeholders' perspective at the bottom of the Strategy Map. Nevertheless, the other participants disagreed with this suggestion. They argued that meeting stakeholders' expectations' is the ultimate goal for HMC. Therefore, it should be at the top of the strategy map.

Summary of the answers to question No. (3), all participants agreed that the proposed Strategy Map will;

- assist in translating HMC strategy into key objectives.
- contribute to improving internal communication among employees.
- help in achieving strategic alignment across the organization.
- enhance employees' awareness on how their day to day work is linked to the organization strategy.
- assist in focusing everyone's time and efforts on achieving HMC strategy.

Regarding question No. (4) that is addressing the possible changes that could be adopted in the proposed Strategy Map to better reflect the HMC strategy, most common answers were nothing apart from the aforementioned comments and other supporting comments that are summarized below. "This is a great model, I like it" commented by one of the participants. "This is really a good model, but it requires tremendous amount of work to get all these objectives implemented" commented by another participant. "Strong governance and promotion of quality and safety are key factors to our success" remarked by one of the participants.

All participants suggested that this Strategy Map and KPIs should be cascaded down to hospitals and departments and should be reflected in the employees' performance appraisal through clear governance, and accountability and leadership commitment. One participant commented "At the corporate level, this map is very good. I would like to see it being cascaded down to the hospital level". "Community partnership and engagement is very important. "Having representation of community in the board could be a measure of community engagement" commented by one of the leaders in HMC. Another participant said "This framework is really good and this is what you will see in major healthcare organizations". Finally, another participant commented in support of the proposed model "This is really good model. We are getting there".

4.3.3 Validation of the Key Performance Indicators (KPI)

After validating the Strategy Map with the participants, the next step was to validate the Key performance indicators. The final version of the Strategy Map along with the proposed Key Performance Indicators were shared with nine participants who expressed

their interest in validating the Key Performance Indicators. Those participants were given one week to respond to the proposed KPIs questions. The list of the nine participants in this stage is presented in Table 8.

Table 8: List of participants from HMC who are involved in validating the KPIs

Sr. No.	Department/Division	Job Title	Years of service in HMC
1	HMC Corporate	Chief Quality Officer	2 years
2	Corporate Nursing	Chief Nursing Officer	1 year
3	Heart Hospital	Executive Director of Business Development	7 years
4	Quality Department	Assistant Executive Director of Business Development	5 years
5	Planning & Performance	Deputy Chief of Planning & Performance	4 years
6	Strategic Planning	Assistant Executive Director of Business Development	17 years
7	Ambulance Services	Chief Executive Officer	8 years
8	Corporate Nursing	Executive Director of Nursing	6 years
9	Health Planning and Programs	Executive Director of Business Intelligence	7 years

In regard to the KPIs of the financial resources perspective, all participants agreed that these indicators would become more important as soon as the insurance system is implemented. One of the participants commented that "if the insurance system is implemented, we will be paid based on our activities. Hence, we will be more cost cautious". In addition, it is suggested to add few words to the "Cost per case" indicator to be read as "cost per case against internal and external relevant benchmark". Comparing cost with relevant benchmark is very important especially with the implementation of the new insurance system. When consulted with few other participants, they agreed that this is a very sensible suggestion. Another participant commented that HMC should track the cost throughout the care process. Hence, this suggestion is reflected in the final version of the KPIs. With regards to the benchmark, one participants commented in support of the idea saying that "the data should be actionable and HMC should start with internal benchmark with similar services within the organization such as Emergency Department and Obstetrics and Gynecology. After that, compare against the best in the region, then the best in the world. The main purpose of this benchmark is to get better outcomes and promote a culture of learning organization".

As for the KPIs of the learning and growth perspective, all participants agreed with the proposed KPIs under this perspective. One of the participants suggested to add few words to the "No. of medical students graduated" to be read as "Percentage of medical or sponsored students graduated as per study plan". The rational for this suggestion is the fact that HMC sponsors students in both medical and non-medical fields. In addition, completing the program as per the agreed study plan is very important indicator to track. Therefore, tracking the percentage of those completing the program as per the study plan

versus those who are not is more representative than tracking the number.

Most of the participants suggested to add accreditation standards to the indicator "Compliance with Laws and regulations" to be read as "Compliance with Laws, regulations and accreditation standards", given that HMC has achieved several prestigious accreditation standards such as Joint Commission International (JCI) for all HMC hospitals. Hence, it is important to maintain this achievement.

Moreover, two other participants suggested to add the phrase of peer reviewed to the indicator "No. of scientific publications" in order to be read as "No. of peer reviewed scientific publications". This suggestion has been welcomed by all other participants. One of them commented that "No. of peer reviewed scientific publications really good indicator". There was unanimous suggestion from the participants that "staff productivity" is very hard to measure and requires lots of time and efforts to establish objective measures at individual job levels. Hence, they proposed to take it out and reconsider it later when the organization is ready to invest time and efforts in establishing good staff productivity measures. Therefore, it was taken out from the final list of KPIs.

Another participant suggested to add a sub-set of indicators to measure employee sickness rates, as a subset of employee absenteeism. In addition, there was another suggestion to add a sub-set of indicators to measure the effective use of the technology that HMC invested on. Both suggestions can be addressed when the KPIs are cascaded down at the department level which is out of the scope of this research.

As far as the KPIs of the internal perspective are concerned, all participants agreed with the proposed KPIs under this perspective, and they all suggested to add the word "adjusted" to the indicator "Mortality index" in order to be read as "Adjusted mortality

index". Another participant commented confirming this suggestion by saying "avoidable death rate is important KPI. Serious and non-serious clinical incidents are also important". Another participant suggested to add "Inventory turnover rate". This suggestion has been agreed by six other participants. A third participant suggested to add an indicator to measure process effectiveness and efficiency by stating that "we should measure process effectiveness to know which process is working and which is not and learn from what is going right and fix the wrong application." Hence, this indicator is stated as "Process effectiveness and efficiency" and it is recommended that this indicator should be clarified in detail when the KPIs are cascaded down at the department level. Another participant commented that "Measuring process effectiveness and efficiency is very important". One other participant suggested to add an indicator related to "Patient access and timeliness of care". This suggestion is agreed by five other participants who contributed to the validation of the KPIs. Additionally, one participant suggested to add an indicator to monitor disease prevention objective. In response to this suggestion, the indicator "No. of disease prevention programs" has been added to the final list of the proposed KPIs after consulting the other participants.

Finally, as for the KPIs of the stakeholders' perspective, all participants agreed with the proposed KPIs under this perspective, and commented that patient satisfaction is the most important indicator here. One participant suggested to add the word "plaudit", which means praise and appreciations, to the "No. of patient complaints" in order to be read as "No. of patient complaints and plaudits". This recommendation is agreed by seven other participants and, consequently, it has been considered in the final list of KPIs.

Another participant suggested to add the word "events" to community engagement

indicator. However, it is seen that adopting this suggestion could limit the community engagement to only certain events that could be a sub-set of this indicators. Therefore, this view was not supported by others and is not included in the final list of KPIs. One participant commented that the patient satisfaction should be conducted by independent organization. Another participant commented that we should meet the National Health Strategy targets under this perspective.

In summary, all the participants in validating the KPIs agreed that the proposed KPIs will assist in translating HMC strategy into measurable KPIs at the corporate level and suggested to cascade this proposal down at the hospitals and departments levels. They also believe that these KPIs will contribute to improving internal communication among employees if communicated properly at the employee levels. In addition, they agreed that these KPIs will help in achieving strategic alignment across the organization. Furthermore, they believe that the proposed KPIs will contribute to enhancing employees' awareness on how their day to day work is linked to the organization strategy and assist in focusing everyone's time and efforts on strategic related issues, particularly if the KPIs are cascaded down to employees' levels and are linked to their performance appraisals.

Regarding the final question that is related to any changes that they would propose to the Key Performance Indicators list, one of the participants commented showing full support for the proposed KPIs "this is a really good corporate dashboard. There should be similar dashboard at facility and department level. The corporate dashboard is accumulation of all hospitals. These KPIs should be reported in real time through our information system. We should get people to action the outcomes of the dashboard through the governance and accountability structure." Another participant said "there should be sub-category of KPIs

to measure the effective use of the electronic systems that we invested on. Our systems contain rich and big data, we should analyze it and make the best use out of it." A third participant commented that "targets should be assigned to each KPI. These targets should be aligned with the National Health Targets and we should hit those targets". Finally, a fourth participant said "Holding people accountable financially. This requires culture change for us to be responsive to the changes around us."

CHAPTER 5: DISCUSSION

The objective of this chapter is to discuss the final results of the present study while refereeing to some of the concepts from the literature and reflecting on how these concepts were applied in support of our study. This chapter consists of three main parts. The first part is the Strategy Map (SM) developed to visualize the strategy that HMC should pursue to achieve its mission. The second part represents the Key Performance Indicators (KPIs) that should be monitored to measure the effectiveness of achieving HMC strategy. The third part refers to some of the challenges faced during this study and how they were tackled.

5.1 The Strategy Map (SM)

The SM design and development process was presented in Chapter 4 and the final version of the SM is included in Figure 8. The main purpose of this specific section is to provide the discussion of the designing process, the final version of the SM, and the four perspectives included in this Map.

The designing process of the SM for HMC took nearly two months through an iterative process with the involvement of 12 senior leaders and managers from HMC and guidance by two professors from Qatar University. This includes determining the key objectives that HMC should focus on to implement its strategy. This task was accomplished through conducting several in-depth interviews with the participants in the study. Fortunately, the current HMC strategic plan provided the researcher with sufficient information to design the SM. The approach of involving key employees in the design of SM for HMC is in line with the literature. For instance, Senyigit (2009) argues that in order

to obtain employees' buy-in and support during the implementation of the SM, the organization should involve them early in the process. In this essence, employees from different departments should be involved from the design and development stage of the SM. In addition, this involvement helps communicating the organizational mission and key objectives to the employees and assists in the culture change among employees (Kaplan & Norton, 2004; Tuan, 2012). Adoption of the new culture is the most important issue for a successful implementation of the SM (Grigoroudis et al., 2012). In fact, involving the key people from HMC is thought to be an outstanding strategy since it enabled the inclusion of broader range of opinions and views from employees who are responsible for strategy development and implementation. In addition, it provided the participants with an opportunity to reflect on the organization strategy and key objectives; a process that should happen very often, however, it is always forgotten with the day-to-day pressing issues.

Regarding the development of the SM itself, the researcher used the main concepts developed by Kaplan (2001), Gurd and Gao (2007) and Grigoroudis et al. (2012) to adapt the traditional BSC to the public healthcare organization. The final version of HMC SM has four perspectives; Stakeholders, Internal, Learning and Growth, and Financial Resources Perspectives. The objectives included in these four perspectives are discussed in the following sub-sections

5.1.1 Stakeholders Perspective

This perspective is at the top of the SM as meeting stakeholders' expectations is the most important goal for HMC to achieve its mission. This is in line with the literature about

the implementation of BSC and SM in healthcare organization (Aidemark, 2001; Zelman et al., 2003; Gurd & Gao, 2007). The five objectives mentioned in this perspective covers the stakeholders' expectations from HMC. The first objective is to provide "Responsive, safe, compassionate care". Although this objective seems to be simple, it has lots of meanings. Offering responsive, safe and compassionate care means offering timely, high quality, consistent treatment delivered in a respectful, caring and sympathetic way. In addition, it implies reducing the patient waiting time and access to treatment. The second objective is "Improved patient engagement & outcomes". Patient engagement is critical to improving patient heath care outcomes. As per Patrick et al., (2017), to improve patient engagement, the healthcare professionals including Physicians must spend sufficient time with the patient in order to educate them and improve their awareness in a passionate, hearty, responsive and motivating way. It is believed that poor patient health awareness is due to poor communication between the Physicians and the patient, and this could lead to ineffective healthcare and poor outcomes (Wills, 2009).

With regard to the third objective "improved health and well-being", this objective will be accomplished if there is a responsive, safe, high quality care, as well as effective disease prevention and health promotion programs to improve patient awareness. This relationship has been emphasized by many participants in the in-depth interviews. As for the forth objective "Enhanced community partnership & engagement" and fifth one "Enhanced partnership with our stakeholders", both are critical to the transformation of healthcare system since they highlight the importance of working with patients, patients' families, other healthcare providers, government and non-government institutions, the clinicians and all employees. Such partnership and engagement could be in the co-design

of healthcare facilities, in the service planning and in measuring the service effectiveness and evaluation. In support of this argument, Qatar National Health Strategy of (2018-2022) emphasizes the need for such partnership and engagement.

5.1.2 Internal Perspective

According to the first, second and fourth objectives under this perspective, in order to satisfy patients' and stakeholders' needs, there should be effective and efficient processes across the organization since the delivery of high quality care cannot happen without the support of well-designed processes. In any organization, having well-designed and integrated processes will lead to improved efficiency, reduced cost and improved customers' and stakeholders' satisfaction. In particular, for a very large organization such as HMC, delivery of timely high quality coordinated care requires high level of coordination and integration between all relevant processes and systems across the organization. Team work and collaboration have been introduced as key principles in Qatar National Health Strategy of (2018-2022) with the aim of improving the health of all people in the country. This team work and collaboration should happen across the whole healthcare sector and community as well.

The fourth objective "Enhancing inventory management and maximize purchasing power" requires optimizing and streamlining the procurement process and reducing stock levels while considering the safety stock. This objective also includes maximizing purchasing power through adoption of bulk purchasing and standardization of product utilization. The fifth objective "Integrated business development and transformations" is critical to HMC. More specifically, integrating and connecting the various planning

functions (clinical service delivery, workforce, financial and quality) will help HMC to optimize the available resources and better manage the risks within the corporation. The sixth objective "Focus on disease prevention & health promotion" is often underutilized by the urgent medical treatments and the day to day operations. However, if this objective is properly emphasized, well designed and executed, it will help avoid, many critical health conditions that the community is exposed to. Preventive healthcare has been also emphasized in the Qatar National Health Strategy of (2018-2022). Capturing it in the Strategy Map as key objective, reminds HMC employees with its importance as critical for HMC to achieve its mission. It requires educating the patients, the families, the community and the whole society.

5.1.3 Learning and Growth Perspective

This perspective focuses on building the organizational capabilities to enable HMC to accomplish its mission. The first objective "Proactively recruit, develop & retain the right staff with the right competencies" is cited by all the participants in the field study as the most important objective. The delivery of high quality care is mainly dependent on competent clinicians and support staff as they are dealing with the most important assets which is people's health and lives. As per Kaplan and Norton (2010), the value proposition of the intangible assets such as employees, knowledge and technology is indirect. Improvement in these intangibles has a cause-and-effect relationship with the financial outcomes. Yet, this relationship involves two or three intermediate levels. As an illustration, investment in hiring qualified employees, developing and retaining them, lead to improving the quality of service. High quality service would definitely result in

enhanced customer satisfaction which ultimately leads to increased revenue and profit. According to Kailash & Jitesh (2014), investment in employee training has the highest driving power in improving the quality of service and increasing productivity and profitability. Regarding the second objective "Create a culture of workforce wellness, accountability, compliance & superior performance", focusing on employee health and well-being has been stated as one of the seven priorities in Qatar National Health Strategy of (2018-2022). Similarly, the strategy has highlighted the importance of accountability, governance, teamwork and staff empowerment captured in the third objective. With regards to the forth objective "Invest in infrastructure and integrated technology", it emphasizes the importance of building HMC infrastructure and technology as key enablers for having effective and efficient processes. According to Kailash & Jitesh (2014), investment in technologies and innovative ideas will lead to reduced patient length of stay in the hospital and reduced waiting time to get access to the outpatient services. Reducing these indicators will lead to improving customers' satisfaction and retention. The fifth objective "Monitor and share data, information & intelligence" and the sixth objective "Drive innovation in clinical practices, high impact research & evidence-based decision" are strongly connected with the forth objective. Investment in technology and digitizing the healthcare records and processes will enable the organization to have huge data. In order for the organization to get the benefits from these data, it is critical to share it with the right staff who are able to transform the data into useful information, intelligence and insights that drive innovation in clinical practices and high impact research and evidence-based decisions. The National Health Strategy has also emphasized the importance of these two objectives as fundamental principles to better investment and high-quality health

outcomes.

5.1.4 Financial Resources Perspective

As mentioned in the previous chapters, the financial perspective comes at the top of the SM of profit seeking organizations. However, in the case of non-profit organizations, this perspective comes at the bottom of the SM. According to Kaplan (2001), the financial perspective in the case of non-profit organization is considered constraint rather than an ultimate objective. Therefore, these non-profit organizations must carefully manage their financial resources in order to fulfil their missions. HMC as well as most healthcare organizations face significant pressure to reduce cost and improve the quality of care. Therefore, four key objectives have been identified under this perspective. The first one is "optimization of the available resources" which requires HMC to demonstrate the best use of the available resources in order to secure additional funding. The second objective "Aligning funding with delivery of healthcare" highlights the importance of directing any spending toward improving healthcare outcomes as the financial situation will become very tight with the introduction of the medical insurance system. Hence, financial sustainability is very important. The third objective "Commission new capacity" means expanding HMC facilities to accommodate the growing need of the population. The last objective under this perspective "Develop strong financial stewardship" is critical to the success of any healthcare organization. In that essence, securing the required resources to the right teams at the right time will have significant impact on whether HMC can deliver high quality service to the patients or not. The introduction of the new health insurance system will further emphasize the significance of this objective, as HMC will be financially

accountable for all the resources spent. Hence, HMC will be required to track the cost of the whole care delivery process.

5.2 Key Performance Indicators (KPIs)

After completing the Strategy Map and the key objectives included in it, the next step was to select the Key performance indicators to measure the success towards accomplishing the objectives in the SM and achieving HMC mission. The final KPIs were presented in Chapter 4 section 4.3.3 and are included in Table 9. In this section, we aim to discuss the process for agreeing on the KPIs and comparing the final KPIs with the current KPIs used in HMC quarterly dashboard and provide the definition and supporting literature for the selected KPIs. In addition, we will discuss the challenges faced during this research.

5.2.1 The KPIs Development Process

As discussed in Chapter four, the final version of the Strategy Map along with the proposed Key Performance Indicators were shared with nine participants to validate the KPIs. The selection of these participants was based on their close involvement in developing & monitoring performance measures at the corporate and hospital levels in their day-to-day work, in addition to their willingness and interest to participate in the remaining part of the study. The list of these nine participants is presented in Table 8 in Chapter 4. The whole process took 5 weeks including the various iterations until the final list of KPIs (Table 9) is completed and agreed on by the participants.

5.2.2 Discussion of the Final KPIs

The main purpose of this section is to compare between the KPIs in HMC quarterly dashboard and the final proposed KPIs as one of the outcomes of this study and highlight the key differences.

5.2.2.1 Stakeholders Perspective

HMC quarterly dashboard contains three main indicators under this perspective; "Referral to first seen within 48 hours including cancer", "From first seen to diagnosis within 14 days including cancer", "From Diagnosis to first treatment within 14 days including cancer". These three indicators focus mainly on the patients and aim to monitor the timeliness of providing patients with access to treatment. These indicators can be covered under "average waiting time" in the KPIs proposed by the researcher. In addition, the proposed KPIs include more strategic ones to capture "patient satisfaction index", "No. of patients' complaints and plaudits including how fast the complaints are resolved", "timeliness of discharging patients after completion of the treatment", and "community engagement indicators". These indicators close the gaps in the current quarterly reports and dashboards. Below are the definition, objectives, advantages, and disadvantages of using these KPIs and proposals to address the disadvantages.

Customer satisfaction index

- **Definition**: Average rating from the customer satisfaction questionnaire about the level of services.
- **Objective**: To measure the customers' and patients' opinion regarding the quality of HMC services. This is in line with the KPI "patient satisfaction index", suggested

by Grigoroudis et al. (2012).

- **Frequency**: Monthly.
- **Advantages**: Measuring external stakeholders' views about the services helps HMC to learn from the good practices and deals with the complaints in a timely manner to improve the quality of services.
- **Disadvantages**: Measuring stakeholders' feedback regularly is costly and time consuming particularly when it is conducted by a third-party organization as suggested by one of the participants.
- **Overcoming the disadvantages**: HMC already has a process to measure customer opinions but it requires to be run regularly and by a third party.

Average waiting time

- **Definition**: Average No. of days that the patient waits to be seen by the clinician.
- **Objective**: To track the patients' waiting time. It is in line with the KPI "outpatient waiting time", proposed by Chen et al. (2006). However, The KPI proposed by Chen is limiting tracking waiting time to the outpatient department only. Our proposed KPI is broader than that of Chen et al. (2006) as it aims to monitoring the average waiting time for all the services including the diagnostic services, surgery, and others. In addition, our proposed KPI goes along with literature as suggested by Karra & Papadopoulos (2005) and Chen et al. (2012).
- **Frequency**: Quarterly.
- **Advantages**: It is very easy to measure and, in the meantime, this KPI reflects the efficiency in processes and has direct impact on the patients' satisfaction.
- **Disadvantages**: No major disadvantage as the electronic systems in HMC can

monitor this indicator at specialty and sub-specialty level.

- **Overcoming the disadvantages**: Not applicable

Discharge timeliness

- **Definition**: Measure of the time when the Clinician confirms the completion of the treatment and the actual time the patient is discharged from the hospital.
- **Objective**: It is a measure of efficiency in discharging patient in a timely manner and freeing up beds to other patients who are waiting to get access to the service. This also helps reducing the average waiting time to get access to the service and contributes to improving patients' satisfaction. It is also consistent with the "Discharge timeliness" that is suggested by Gurd and Gao (2007).
- **Frequency**: Monthly.
- **Advantages**: Measuring speed in completing the formalities to release the patients from the hospital after completion of the treatment protocols helps HMC to release more beds for other patients. It is easy to measure and helps improving process efficiency.
- **Disadvantages**: It requires availability of Clinicians in the hospital during the weekends and holidays.
- **Overcoming the disadvantages**: HMC to conduct cost and benefits analysis and take decision based on the outcome of the analysis.

No. of patients' complaints and plaudits

- **Definition**: Number of complaints and applauses submitted by the patients.
- **Objective**: To measure the customers' and patients' satisfaction and dissatisfaction with the services and how quickly the organization is resolving customer

complaints and adapting good practices based on the appreciations from the customers. It is also consistent with the "Number of Patient Complaints" that is suggested by Grigoroudis et al. (2012).

- **Frequency**: Monthly.
- **Advantages**: Measuring external stakeholders' views about the provided services helps HMC to learn from the good practices and deals with the complaints in a timely manner to improve the quality of services and spread the good practices.
- **Disadvantages**: Track customers' complaints and appreciations regularly requires financial resources.
- **Overcoming the disadvantages**: HMC already has a process to monitor customer complaints. It just requires to be reported regularly.

Community engagement

- **Definition**: Number and type of activities and events held to get the community engaged with the organization.
- **Objective**: To get the community engaged with the organization in the co-design of healthcare facilities, in the service planning and in measuring the service effectiveness.
- **Frequency**: Quarterly.
- **Advantages**: Engaging the community is a key factor to the transformation of the healthcare services as the organization will get different opinions and views from key stakeholders in the community.
- **Disadvantages**: Engagement with the community is time consuming and requires financial resources.

- **Overcoming the disadvantages**: HMC already has a department responsible for public health and could be assigned the responsibility of this KPI. The activities and events need to be monitored and reported regularly.

5.2.2.2 Internal Perspective

HMC quarterly dashboard contains an indicator of the "Ambulance service response time" which is identical to one of the proposed KPIs. In addition, the dashboard includes two more indicators similar to the proposed KPIs with minor addition; "Average length of stay" is replaced by "length of stay compared to relevant benchmark". Most of the participants have highlighted the importance of benchmarking HMC service level with relevant regional and international benchmark and setting targets for improvement. The other indicator is "Occupancy rate" which is replaced by "Target occupancy rate" as suggested by the participants to alert employees and get them to focus on meeting the targets. The other indicators in the HMC dashboard are more operational and could be included in the second level of KPIs at the cascading stage. Therefore, we will focus in this sub-section on the additional ones proposed by the researcher and agreed on by all participants in order to close the gaps in the current quarterly reports and dashboards.

Serious incidents

- **Definition**: Number of serious incidents registered in the organization.
- **Objective**: To monitor whether the processes are being carried out effectively and set controls. This is in line with the KPI "serious incidents" that is suggested by Gurd and Gao (2007).
- **Frequency**: Monthly.

- **Advantages**: This is a quality indicator to monitor the process effectiveness and take corrective and preventive measures.
- **Disadvantages**: It might require more time to study events and differentiate between the levels of seriousness.
- **Overcoming the disadvantages**: Serious events must be analyzed to determine the root cause of the incidents and take effective measure to overcome them in the future.

Risk adjusted mortality rates

- **Definition**: Mortality rate adjusted for the forecasted risk of death.
- **Objective**: To monitor whether the processes are being carried out effectively and set controls. This is in line with the KPI "risk adjusted mortality index" that is suggested by Forthman et al. (2010).
- **Frequency**: Monthly.
- **Advantages**: This is a quality indicator to monitor the process effectiveness and take corrective and preventive measures.
- **Disadvantages**: It might require more time to study every death incident and adjust for the predicted risk.
- **Overcoming the disadvantages**: Serious unpredicted deaths must be analyzed to determine the root cause of the deaths and take effective measure to overcome them in the future.

Process effectiveness and efficiency

- **Definition:** Determine whether the process is functioning at the highest quality standard and with the minimum waste of efforts and time.

- **Objective**: To monitor the effectiveness and efficiency of all processes in the organizations and streamlining them to get rid of non-value-added processes.
- **Frequency**: Quarterly.
- **Advantages**: This is a quality indicator to monitor the process effectiveness and efficiency and take corrective and preventive measures.
- **Disadvantages**: It might require more time, efforts and money to review existing processes.
- **Overcoming the disadvantages**: Latest technology and techniques, such as process mining, can be used to assist the organization in measuring the effectiveness and efficiency of its processes. This is very effective approach and less costly.

Inventory turnover rate

- **Definition:** Determine how quickly the organization is selling or using the inventory and whether it is comparable to other counterparts in the industry. The higher the inventor turnover rate, the better the performance.
- **Objective**: To monitor how quickly the organization is using the products and consumables in the inventory rather than keeping them in the stock particularly, the medicine has expiry date. Hence, the organization should only keep stocks to a level where it is clinically safe.
- **Frequency**: Monthly.
- **Advantages**: Measuring inventory turnover regularly would enable the organization to keep an eye on the safety stock and avoid both stock run-out and product expiry.

- **Disadvantages**: No obvious disadvantages.
- **Overcoming the disadvantages**: Not applicable.

Number of patients per year per doctor

- **Definition:** Number of patients treated by each Physician per year.
- **Objective**: To monitor the productivity of each Physician and compare them against each other and compare to relevant benchmark. It is a quantitative assessment of the volume of services provided by each doctor. This goes in line with the literature as suggested by Chen, et al., 2006 "Outpatient per year per doctor".
- **Frequency**: Quarterly.
- **Advantages**: this is a quantitative measure to monitor the productivity of each Physicians as this measure will be very important with the implementation of the medical insurance system.
- **Disadvantages**: This measure might not be perceived positively by Physicians, as professionals, they don't want to be micro-managed and they want to be independent.
- **Overcoming the disadvantages**: Constant communication with Physicians highlighting the importance of this measure as preparation for the introduction of the medical insurance system might help creating culture of high productivity.

Patient access and timeliness of care

- **Definition**: Average No. of hours that the patient waits to be seen by the clinician from the time checked in for the service.
- **Objective**: To track the patients' waiting time to be seen by the doctor. It is different

from the other indicator “average waiting time” as this focuses on the process effectiveness from the time the patient arrives at the hospital to receive the care. It goes along with literature as suggested by Karra ED, Papadopoulos Dl. (2005) and Chen, et al., (2012).

- **Frequency**: Monthly.
- **Advantages**: It is very easy to measure and at the same time measures the efficiency in processes and has direct impact on the patients’ satisfaction.
- **Disadvantages**: No major disadvantage as the electronic systems in HMC can monitor this indicator at specialty and sub-specialty level.
- **Overcoming the disadvantages**: Not applicable.

Readmission within 30 days

- **Definition**: Number of patients readmitted into the hospital within 30 days from the time they are discharged from the hospital.
- **Objective**: Tracking the number of patients readmitted into the hospital within 30 days from the time they are discharged from the hospital helps the organization monitor the effectiveness and the quality of care and treatment provided to the patients. In addition, it enables the healthcare organization to determine which treatment methods are effective, take corrective actions and incorporate the lessons learned into the organizational knowledge base. This KPI is consistent with the “Percentage of Re-admission” that is suggested by Karra & Papadopoulos (2005).
- **Frequency**: Monthly.
- **Advantages**: It is very easy to measure and, in the meantime, this KPI reflects the efficiency in processes and quality of care and has direct impact on the patients’

satisfaction.

- **Disadvantages**: No major disadvantage can be reported since the electronic systems in HMC can monitor this indicator at specialty and sub-specialty level.
- **Overcoming the disadvantages**: Not applicable.

Number of disease prevention programs

- **Definition**: This KPI has been defined by Kane et al. (1985) as the "Number of disease prevention programs, events and campaigns or actions to reduce or eliminate the exposure to risks that might increase the chances that an individual or group will incur disease, disability, or premature death".
- **Objective**: To measure the number and type of programs, events and campaigns that the organization conducts in order to prevent the disease and create awareness among the people of the importance of having healthy lifestyle.
- **Frequency**: Quarterly.
- **Advantages**: Disease prevention is more cost effective than treating the disease and results in better use of the healthcare facilities and services as well as better health for the population.
- **Disadvantages**: There are no major disadvantages of the disease prevention programs.
- **Overcoming the disadvantages**: HMC already has a department responsible for public health and could be assigned the responsibility of this KPI. The activities and events need to be monitored and reported regularly.

5.2.2.3 Learning and Growth Perspective

HMC quarterly dashboard contains only one KPI related to this perspective "employee turnover rate" which is identical to one of the proposed KPIs. There are no other KPIs in the quarterly dashboard related to this perspective. Therefore, below are the additional KPIs proposed by the researcher.

Employee satisfaction index

- **Definition**: Average rate of employees' satisfaction with organization as obtained by employee satisfaction survey.
- **Objective**: To assess the satisfaction of employees with the organization in terms of their duties, working conditions, their supervisors, colleagues, subordinates, and other factors that may have an impact on the working environment. This KPI has been previously suggested by Grigoroudis et al. (2012).
- **Frequency**: Annually.
- **Advantages**: Assessing the level of employees' satisfaction with the organization can help the organization take proactive measure to address any major issues and improve the employees moral and retention rates.
- **Disadvantages**: Employees might not express their opinion freely as they might be afraid from the consequences.
- **Overcoming the disadvantages**: Provide assurance that the results will be reported anonymously and investigation will be conducted and actions will be taken to address the employees' concerns.

Employee absenteeism index

- **Definition:** Number of working days lost because of employee absenteeism divided by total number of working days available per year.
- **Objective**: To measure employees' engagement with their work. This KPI has been suggested by Grigoroudis el al. (2012.
- **Frequency**: Monthly.
- **Advantages**: It is an easy measure to monitor and a good indicator to improve employees' productivity.
- **Disadvantages**: Absenteeism rate might not capture the reasons of absence as it might be for fair reasons.
- **Overcoming the disadvantages**: Tracking all types of absenteeism to determine which ones are for fair reasons, and which ones are not. Decreasing absenteeism rates will result in improved productivity.

Leadership retention rate

- **Definition:** The number of employees in leadership and managerial positions divided by the total number of employees that were available in those positions in the beginning of the period. It is opposite to the leadership turnover rates.
- **Objective**: To measure the effectiveness of the organization's initiatives in keeping the employees who are occupying these critical positions; leadership and management. This goes along with the indicator in literature "Employee turnover rate" as suggested by Gurd and Gao (2007). However, our indicator focuses more on the positions that are critical for achieving the organizational mission.
- **Frequency**: Monthly.

- **Advantages**: It is an easy measure to monitor and a good indicator of the effectiveness of the retention programs.
- **Disadvantages**: No major disadvantages.
- **Overcoming the disadvantages**: Not applicable.

Budget % invested in new technology and infrastructure

- **Definition:** The amount of money invested in fixed assets (technology, infrastructure) divided by the total amount of the annual budget.
- **Objective:** To monitor whether the organization is investing enough money on modern technology, equipment and facilities. It goes along with the KPI in literature "budget percentage invested in new technologies", as suggested by Grigoroudis et al. (2012).
- **Frequency:** Annually.
- **Advantages:** This KPI is proportionate to the total budget and it is easy to measure and helps the organization determine whether it is investing sufficient money on these important elements.
- **Disadvantages:** Significant investment on these elements might result in shortages on spending on other important areas.
- **Overcoming the disadvantages:** Setting rational targets for investing in these elements might help. These targets should be different from the other elements.

Percentage of medical or sponsored students graduated as per the study plan

- **Definition:** Number of medical or sponsored students graduated as per the study plan divided by the total number of medical or sponsored students.

- **Objective:** To monitor whether the medical or sponsored students complete their study program as per the study plan or not. This indicator is of quite importance as HMC invests a lot of money on these programs.
- **Frequency:** Annually.
- **Advantages:** Monitoring this indicator will help the organization effectively manage the investment and keep improving the process of enrolling into these programs.
- **Disadvantages:** It might not distinguish between students who fail to complete the program for fair reasons and those who fail because of negligence.
- **Overcoming the disadvantages:** Failure cases should be thoroughly investigated to determine the actual reason for non-completion of the program on time and appropriate actions should be taken.

Number of peer reviewed scientific publications

- **Definition**: Number of scientific research published in peer reviewed, high-quality journals.
- **Objective**: To track whether the organization is contributing to the knowledge generation and dissemination. It is in line with the KPI "publications" that is suggested by Gurd and Gao (2007).
- **Frequency**: Annually.
- **Advantages**: It is a simple and highly effective way to determine whether the organization is contributing to knowledge generation and dissemination.
- **Disadvantages**: The research activities might not come as priority as clinical activities for certain specialties particularly those that have high clinical load.

Clinicians working on those specialties will do research on their own time after duty hours motivated only by professional accomplishment.

- **Overcoming the disadvantages**: The organization should take into consideration the protected time for research during Clinicians Job Planning, monitor this indicator and establish formal incentive and recognition program.

Compliance with laws and regulations and accreditation standards

- **Definition**: Organizational compliance with laws and regulations through the result of audit reports and renewal of accreditation certificates.
- **Objective**: To track whether the organization complies with the applicable laws, regulations, governance and accreditation standards.
- **Frequency**: Annually.
- **Advantages**: There is well-established audit process in HMC to monitor compliance with applicable laws, regulation, governance and accreditation standards.
- **Disadvantages**: No major disadvantage.
- **Overcoming the disadvantages**: Not applicable.

Percentage increase in total yearly grant funding

- **Definition:** Difference between funds from grants in the current year and funds from grants in the previous year divided by funds from grants in the previous year
- **Objective:** To measure the availability of funding from grants to research and clinical services. This indicator is comparable to the indicator in literature "amount of funds raised" that is proposed by Gurd and Gao (2007).
- **Frequency:** Annually.

- **Advantages:** This indicator assists in determining whether HMC is successful in securing funds from grants as appreciation of the services and activities provided by the organization and contribution to the research and knowledge generation.
- **Disadvantages:** HMC might have little control over this indicator.
- **Overcoming the disadvantages:** The organization can demonstrate value for money to the donors through providing excellent services and producing high quality scientific researches.

Percentage increase in Qatari Nationals in management, leadership and mission critical positions

- **Definition:** Difference between number of Qatari Nationals in management, leadership and mission critical positions at the end of the period and the number in the beginning of the period divided by the number in the beginning of the period.
- **Objective:** To measure the increase or decrease of Qatari Nationals in these critical positions. This is in line with the recent Qatar National Strategy.
- **Frequency:** Monthly.
- **Advantages:** This is an effective measure of the organizational capability in attracting, developing and retaining Qatari Nationals for the management, leadership and mission critical positions.
- **Disadvantages:** No obvious disadvantage.
- **Overcoming the disadvantages:** Not applicable.

5.2.2.4 Financial Resources Perspective

HMC quarterly dashboard does not contain any indicators for financial resources, as this might be confidential to share with non-senior management team. Therefore, we will focus on the KPIs that are agreed on by all the participants under this perspective. The indicator related to the "Amount of fund raised" can be similar to the "Percentage increase in total yearly grant funding" discussed under the previous perspective related to learning and growth. Other new KPIs are defined below:

Cost per case compared to internal and external relevant benchmark

- **Definition**: Total cost of each case treated benchmarked against internal cases within HMC and external relevant cases in the region and internationally.
- **Objective**: To determine the efficiency of the organization in providing treatment care to patients as a measure of determining organizational capabilities in providing cost effective care without compromising the quality and outcomes for patients. This indicator is in line with the "cost per case" that was previously suggested by Gurd and Gao (2007).
- **Frequency**: Quarterly.
- **Advantages**: Monitoring the cost per case is more appropriate than the cost per consultation as the latter can be easily manipulated through increasing the number of consultations. In addition, the cost per case measures efficiency as well as effectiveness of treatments.
- **Disadvantages**: Extensive focus on reducing the cost per patient might have negative impact on the quality of service.
- **Overcoming the disadvantages**: Other KPIs such as patient satisfaction, serious

incidents and quality indicators should be monitored as well to alert the management in case of any compromise with the quality

Cost per patient day

- **Definition**: Total cost that the hospital incurs for each patient per day (for the inpatient department).
- **Objective**: To monitor the cost per patient per day (trend) and develop initiatives and practices to improve efficiency. This indicator is in line with the KPI "cost per patient day" that was introduced by Manville (2007).
- **Frequency**: Quarterly.
- **Advantages**: It assesses the organization's capabilities in adapting new technology, monitoring the trends in clinical practices to simplify the processes and reduce healthcare cost.
- **Disadvantages**: It is difficult to calculate and requires advanced costing system.
- **Overcoming the disadvantages**: HMC has already started the Patient Level Costing System in preparation for the insurance system. Hence, monitoring this indicator will not incur any additional cost or efforts.

Change in cost per stay

- **Definition**: The percentage of increase or decrease in cost that is due to the implementation of new medical protocols, new technology or process improvement. It is calculated by dividing the average reduction or increase in cost by the total cost.
- **Objective**: To monitor the trend (increase or decrease) of cost per patient and develop initiatives and practices to improve efficiency. This indicator is in line with

the KPI “Change in cost per stay” that was introduced in the literature by Chen el al. (2006).

- **Frequency**: Quarterly.
- **Advantages**: It assesses the organization’s capabilities in adapting new technology or introducing improvements in clinical practices to reduce healthcare cost.
- **Disadvantages**: This indicator is difficult to calculate and requires advanced costing system.
- **Overcoming the disadvantages**: HMC has already started the Patient Level Costing System project in preparation for the insurance system. Hence, monitoring this indicator will not incur any additional cost or efforts.

Ratio of operating expenses to revenue

- **Definition**: This ratio is calculated by dividing the operating expenses by the gross operating income or revenue.
- **Objective**: A measure of monitoring the operating expenses of a facility or service compared to similar ones in the organization or in the counterparts.
- **Frequency**: Monthly.
- **Advantages**: This indicator alerts the management to control the costs of operation in case of higher expenses.
- **Disadvantages**: No major disadvantages for this indicator.
- **Countering the disadvantages**: Not applicable.

Budget variance

- **Definition**: The difference between the approved budget, expenses or revenue and the actual amount.

- **Objective**: Budget variance analysis is an important indicator that assists management in controlling the actual expenses against planned or budgeted amounts. In addition, this analysis helps determining whether the variance is significant or not. Significant budget variance alerts decision maker and management to adjust business strategies or objectives.
- **Frequency**: Monthly.
- **Advantages**: Very simple to calculate and provides indication to the management and decision makers whether the actual spending or revenues are as per the initial plan and take appropriate decisions accordingly.
- **Disadvantages**: The data from budget variance analysis might be used for decision making without comprehensive analysis of the root cause of the variance and this might lead to inappropriate decision.
- **Countering the disadvantages**: Significant budget variance should be thoroughly analyzed and researched to determine the root cause of the variance and appropriate decision to be applied thereafter.

5.3 Challenges Faced During the Field Study

1. **Time constraints**: according to Greiling (2010), developing and implementing a tool such as the BSC in healthcare organization generally takes two years. However, in our case, due to time shortage, it took approximately 2 months of research and 2 months of development. This was only possible for various reasons; first of all, the cooperation and commitment of the participants, both from Qatar University and HMC, in completing the study within the timeframe. Secondly, the

availability of the archive documents that contain valuable sources of information for this research such as HMC strategic plan and quarterly dashboard as well as Qatar National Health Strategy. Thirdly, the variety of communication channels that the internet provided us with. However, it is essential to mention that the tool is still yet to be tested and implemented by HMC management team, which is outside the scope of this project.

2. **Adapting the Strategy Map and its associated KPIs for non-profit organization**: according to Grigoroudis et al. (2012), the BSC is very generic and the process of adapting it to specific cultural context is too challenging. However, after completing this case study, the research concludes that the BSC is a flexible framework that can be adapted to fit the organizational context via changing some of the perspectives and where they are located on the Strategy Map (SM).
3. **Adapting the SM and KPIs for healthcare organization**: proposing a performance measurement system for healthcare organization was another challenge as the healthcare professionals require more freedom in controlling their activities. To overcome this challenge, the researcher constantly worked with the participants in the SM and KPIs development and validations process and incorporated the common views in the final version. This approach is in line with the recommendations of a study conducted by Funck (2007) to get employees involved in the design process of Performance Management System so that they can own the implementation.

CHAPTER 6: IMPLICATIONS, LIMITATIONS AND FUTURE DIRECTION AND CONCLUSION

This Chapter will cover the major implications and outcomes of this research, the limitations, future research as enhancement of this work and conclusion of the whole study.

6.1 Research Implications

The key outcomes of this research are two robust performance management tools developed for HMC. These tools are the Strategy Map (SM) and Key Performance Indicators (KPIs) that were developed in consultation with two Professors from Qatar University and full engagement, review and validation by twelve healthcare leaders from HMC. The engagement of HMC leaders into the design and development of the SM & KPIs is key in gaining their commitment and support during the implementation process.

The SM will be visual representation of HMC strategic plan. Hence, it will be very powerful communication tool of the corporation strategy as confirmed by the participants in the study. In addition, the proposed SM and KPIs are fully supported by HMC leaders as new tools that will assist in achieving strategic alignment across the organization, contribute to enhancing employees' awareness on how their day to day work is linked to the organization strategy and assist in focusing everyone's time and efforts on strategic related issues. Furthermore, the researcher believes that if these tools are cascaded down properly and regularly updated, hopefully in real-time, they can provide additional help to HMC leaders in managing the performance of the corporation and achieving HMC ultimate objectives. Finally, the proposed SM & KPIs are developed for the largest public healthcare organization in the Middle East. Therefore, it can be adapted to similar non-profit

organization in the region.

6.2 Recommendations for Implementation of the SM & KPIs

The implementation of the proposed SM & KPIs is outside the scope of this research. However, below are some recommendations for the implementation:

1. **Leadership commitment**: according to Bourne et al. (2000), the main reason for failure of the implementation of the BSC is the lack of leadership support and ownership. Fortunately, during this study, the researcher spent extensive amount of time with HMC leadership and management team to involve them in the process and secure their commitment, ownership and support.
2. **Cascading down Strategy Map and KPIs to the hospitals and departments levels**: this requires breaking down the strategic objectives and corporate wide KPIs to more operational ones. It is important to mention that multidisciplinary teams' and individual employees' KPIs should be tied to the operational and corporate KPIs so that the employees can see clear line of sight and connection with the organization strategy and how their day to day work contributes to the accomplishment of the organizational mission.
3. **Setting clear targets and involving employees in the process**: as soon as the hospitals', departments' and individual employees' KPIs are defined and agreed, the next step is to assign targets to each KPI. These targets should be aligned with the targets outlined in Qatar National Health Strategy of (2018-2022). As suggested by Kaplan (1996), employees' involvement in the target setting process is very important so that they own the outcomes of the process. In addition, it is vital to

make sure that the targets are realistic and challenging at the same time to stimulate employees' motivation (Najmi et al., 2012).

4. **Monitoring the KPIs and sharing the results**: according to Tuan (2012), organizations should monitor the KPIs and share the results with the employees via the intranet to enable them to have continuous access to the results. Sharing KPIs' results with employees will remind them with the targets and whether these targets have been achieved or not. It is also suggested by Chen et al. (2012) to use a color code system (green, yellow and red) to visualize the results.
5. **Real-time reporting and periodic review**: it is recommended to capitalize on the technological advancement by investing in and automating the monitoring of the KPIs in real-time to enable the organization to continuously assess the performance and update the Strategy Map to reflect any changes in the organizational strategy. According to Kennerley and Neely (2003), periodic review of the Performance Management System (PMS) and BSC should follow three-step process: reflection and review of the existing BSC, updating it to reflect the new context and changes to the strategy, and deployment of the updated version. Such approach will ensure continuous, interactive and automatic review and discussion of the Strategy Map.
6. **Governance and accountability**: develop governance and accountability structure to make sure the employees will action the results of the reported KPIs.
7. **Employee engagement and ownership**: To ensure employees' buy-in and support, the should be engaged early in the process. They should see the implementation of the new SM & KPIs including the sub-categories as their own project not as being imposed by management. Extensive training and communication should not be

overlooked.

8. **Change Management:** The introduction of the proposed SM & KPIs requires significant cultural shift. Systematic change management tools and techniques should be considered throughout the whole process. The goal of the change management program is to win the hearts and minds of the employees, to help them to change, thrive, see new hopes, acquire new skills and develop new thinking.

6.3 Research Limitations and Future Direction

This research has accomplished the development of two main outcomes: The Strategy Map for HMC and the associated Key Performance Indicators (KPIs) to monitor the achievement of the corporation's strategy. However, this research leaves some room for future research and further enhancement of this work:

1. Further studies could be conducted to explore how the proposed SM and KPIs can be effectively implemented in HMC and how these tools can be cascaded down to hospitals, departments, teams and individual contributors in a way that enhances the corporation's performance.
2. Although the SM and its associated KPIs are developed for HMC as final outcomes of this work and yet to be implemented, the results obtained after the implementation may provide another topic for research.
3. Automating the process of reporting on KPIs to provide real-time information could be another area of research and discussion.
4. Another research could be done to explore the adaptability of the developed tools to other similar non-profit healthcare organizations.

6.4 Conclusion

Achievement of organizational mission can be influenced by several factors. Some of these factors are within the management controls and others are not. Good leaders can determine the factors which can be controlled and develop effective strategies to handle these factors and achieve the best possible outcomes. Nevertheless, they need robust management tools and highly competent and motivated employees. Developing a Strategy Map (SM) and the related Key Performance Indicators (KPIs) is a significant challenge. Adapting these tools to fit non-profit healthcare organization is much more challenging. However, like any challenging project, successful completion often results in great outcomes.

After completing the proposed SM and KPIs for HMC, the researcher identifies some of the reflections from this project. Involving the right people in the process is a key factor to success. It is a powerful approach and results in more motivated teams. During the design and validation process of the SM and KPIs for HMC, twelve participants were given the opportunity to freely express their opinions and insights anonymously. This approach encouraged diverse views and has resulted in great ideas.

Although non-profit institutions are quite different from the profit ones, they both should follow similar approach to accomplish their mission. They must meet their stakeholders' needs. They need to decide their competitive priorities and competitive advantage, design and execute robust and efficient processes, build internal capabilities, and optimize the available resources. The key difference between both types of organizations is whether their main goal is profit maximization or better use of the financial resources.

In conclusion, effective and efficient management of organizations has never been and undoubtedly will never be simple. However, chances of success might increase substantially with the adoption of well-established protocols, best-fit practices, proper management tools, perseverance of good leadership team and support of competent, committed and motivated employees.

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APPENDICES

Appendix A: Invitation to Participants in the In-Depth Interview

Dear Mr. / Ms. ,

I hope this email finds you well

Please note that I'm currently at the final Semester of my MBA at Qatar University. My graduation project is about designing Strategy Map for Hamad Medical Corporation as per Balanced Scorecard perspectives. The Balanced Scorecard is a widely used management tool that helps organizations monitor the accomplishment of their objectives. It aims at translating the organizational strategy and key objectives into simple measures that motivates employees to align their work toward achieving the organizational objectives through meeting their assigned targets.

The proposed Strategy Map is a tool that connects related objectives for HMC in a cause-and-effect relationship, categorizing them into different perspectives according to their nature. It helps people understand how different objectives interact to achieve the ultimate organizational objectives.

The methodology for this research is through interviewing some of HMC leadership and management team. The purpose of the Interview is to validate the proposed Strategy Map and Key Performance Indicators for HMC.

Your input is an essential element in this study and will be kept strictly confidential. The information collected during the interview will be used for research purposes only. Of course, your participation is voluntary. Therefore, I would appreciate the opportunity to meet with you any time between 7th till 29th. The meeting will be approximately 45-60 minutes.

Best regards

Abdel Rahman Noufal

Appendix B: Interview Guide and Questions (First Draft for Pilot Interviews)

Interview Guide

Designing Balanced Scorecard Strategy Map for Hamad Medical Corporation (HMC)

My name is Abdel Rahman Noufal. I am a student at the last year of the MBA at Qatar University. The objective of my graduation project is to design a Strategy Map for HMC as per Balanced Scorecard perspectives. This is done with the support of HMC leadership team and guidance from professors at Qatar University.

The Balanced Scorecard is a widely used management tool that helps organizations monitor the accomplishment of their objectives. It aims at translating the organizational strategy and key objectives into simple measures that motivates employees to align their work toward achieving the organizational objectives through meeting their assigned targets. Many tools can be used to facilitate the design of a Balanced Scorecard. The proposed Strategy Map is a tool that connects related objectives for HMC in a cause-and-effect relationship, categorizing them into different perspectives according to their nature. It helps people understand how different objectives interact either positively or negatively to achieve the ultimate organizational objectives.

The objective of this interview is to validate the proposed Balanced Scorecard Strategy Map for HMC. Each of the interviewees' responses is essential for the design and validation process. There are no right or wrong answers. Your responses will remain anonymous as the identity of the interviewees will be confidential.

First and foremost, I would like to thank you for your cooperation and dedication in answering the questions mentioned below.

Please review the Strategy Map on page 4 and answer the questions. The rectangles in the left side have the proposed four perspectives (Financial, People including Building Capabilities, Processes and Customers) and the boxes in the scheme inside indicate the objectives that are critical for the achievement of HMC strategy. The arrows indicate how the objectives interact in a cause-and-effect relationship, that is, how the accomplishment of one subsequently influences the accomplishment of others.

The rectangles on the right side contain the Key performance Indicators that measure the objectives. The key indicator is a quantifiable measure that helps the organization monitor the performance and evaluate whether the organizational goals have been achieved or not. In addition, the indicator must be clearly defined and easy to measure.

1. Are there any key objectives missing in the Strategy Map? If your answer is yes, Please mention them.

2. Are there any objectives that you think are irrelevant or non-critical to the achievement of HMC strategy? If your answer is yes, which objectives and why?

3. Do you agree that the proposed Strategy Map will assist in;

- translating HMC strategy into key objectives?
- improving internal communication among employees?
- aligning the organization with strategy?
- demonstrating cause-and-effect relationships?
- enhancing employees' awareness on how their day to day work is linked to the organization strategy?
- focusing everyone's time and efforts on strategic related issues?

4. If you disagree, what changes do you propose to the Strategy Map to better reflect HMC strategy?

5. Do you agree with the cause-and-effect relationships represented by the arrows in the Strategy Map? If you disagree please modify the arrows as you deem appropriate.

6. Are there any key performance indictors missing? If your answer is yes, Please mention them.

7. Are there any key performance indictors that you think are irrelevant or non-critical to the achievement of HMC strategy? If your answer is yes, which ones and why?

8. Do you agree that the proposed Key performance indicators will assist in;
   - linking performance measures to corporate strategy?
   - adoption of new performance measures?

9. If you disagree, what changes do you propose to the Key Performance Indicators?

10. Do you think the information in the Strategy Map will provide an effective performance management tool for HMC? Please explain.

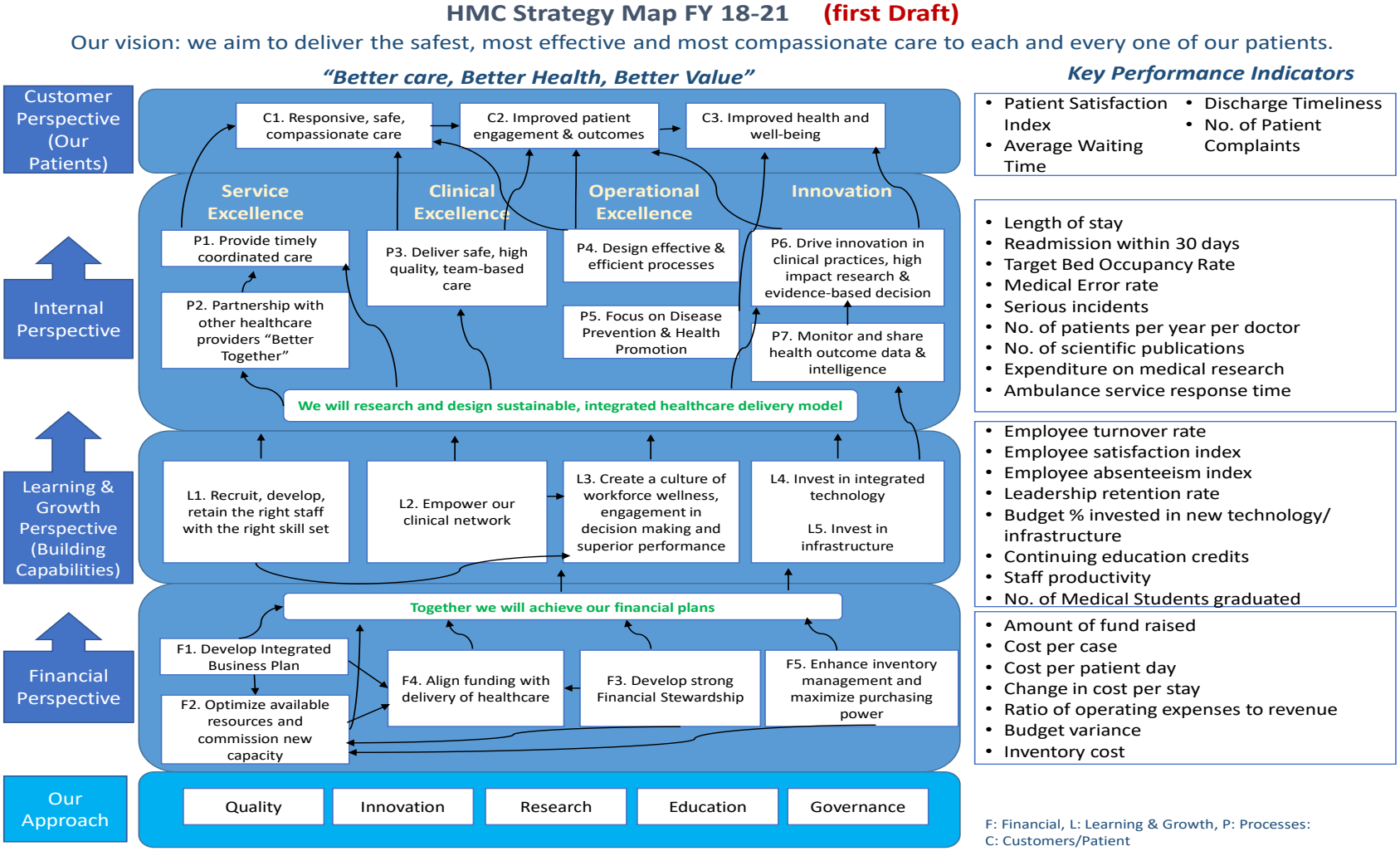

Figure 8: First draft of the proposed Strategy Map for HMC

Appendix C: Interview Guide and Questions (Second Draft for In-Depth Interviews)

Interview Guide

Designing Balanced Scorecard Strategy Map for Hamad Medical Corporation (HMC)

My name is Abdel Rahman Noufal. I am a student at the last year of the MBA at Qatar University. The objective of my graduation project is to design a Strategy Map for HMC as per Balanced Scorecard perspectives. This is done with the support of HMC leadership team and guidance from professors at Qatar University.

The Balanced Scorecard Strategy Map is a widely used management tool that helps organizations monitor the accomplishment of their objectives. It aims at translating the organizational strategy and key objectives into simple measures that motivates employees to align their work toward achieving the organizational objectives through meeting their assigned targets.

The objective of this interview is to validate the proposed Balanced Scorecard Strategy Map for HMC. Each of the interviewees' responses is essential for the design and validation process. There are no right or wrong answers. Your responses will remain anonymous as the identity of the interviewees will be confidential.

First and foremost, I would like to thank you for your cooperation and dedication in answering the questions mentioned below. Please review the Strategy Map on page 3 and answer the related questions. Below is the key items included in the Strategy Map

Strategy Map Perspectives	* HMC Key Objectives
Customer Perspectives	
Internal Perspectives	
Learning & Growth Perspective	
Financial Perspectives	

* Key objectives that are critical to the achievement of HMC strategy

In-depth Interview Questions

Section (1) Validating Strategy Map

11. Do you feel that there are some other key objectives that should be incorporated in the Strategy Map? If your answer is yes, Please mention them.

12. Do you feel that there are some objectives that are irrelevant or non-critical to the achievement of HMC strategy? If your answer is yes, which objectives and why?

13. Do you agree that the proposed Strategy Map will;

- assist in translating HMC strategy into key objectives?
- contribute to improving internal communication among employees?
- help in achieving strategic alignment across the organization
- enhance employees' awareness on how their day to day work is linked to the organization strategy?
- assist in focusing everyone's time and efforts on strategic related issues?

14. What changes, if any, would you propose to the Strategy Map to better reflect HMC strategy?

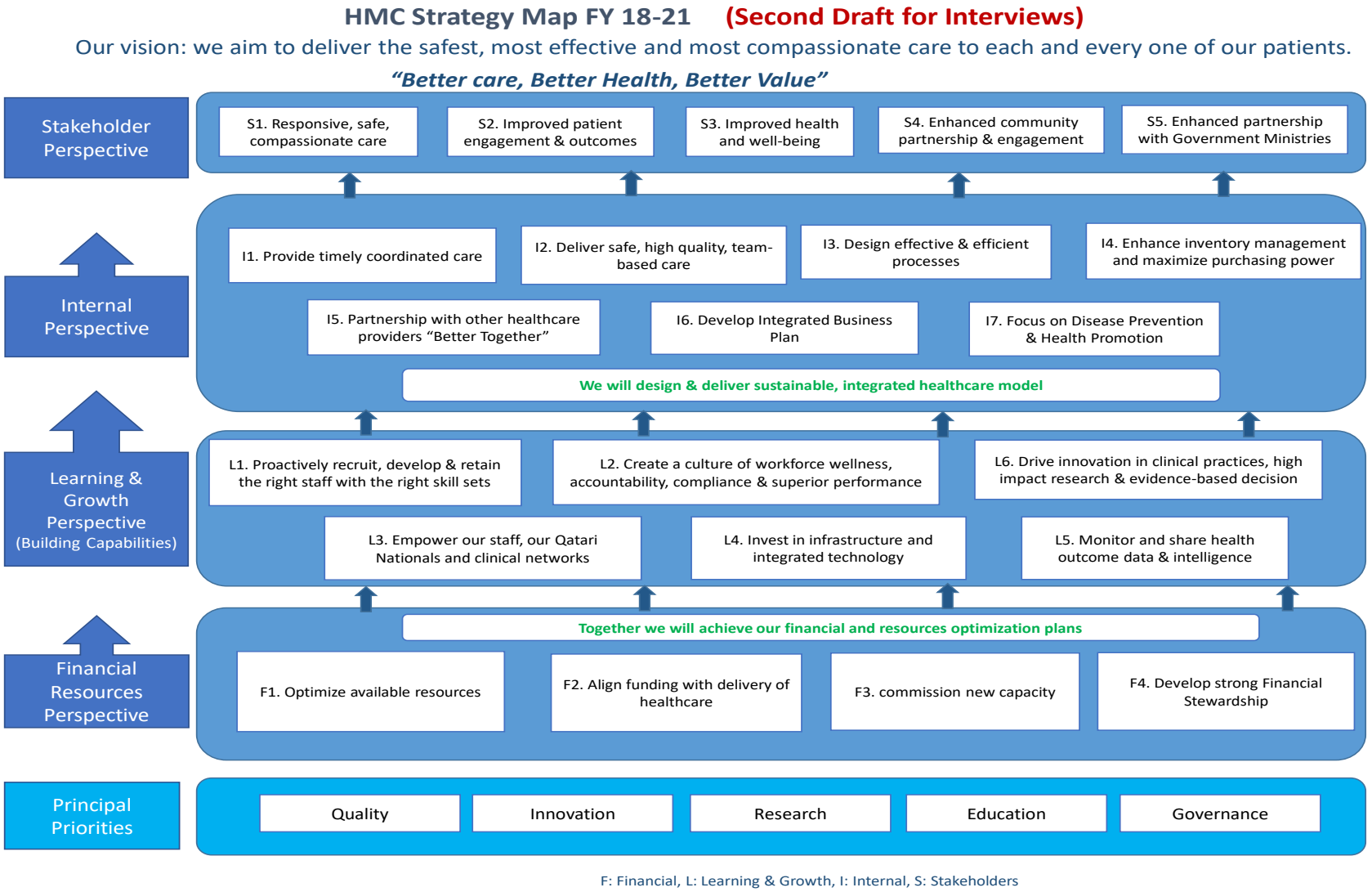

Figure 9: Second draft of the proposed Strategy Map for HMC

In-depth Interview Questions

Section (2) Validating the Key Performance Indicators

The Key Performance Indicators are quantifiable measures that help HMC monitor the performance and evaluate whether the organizational goals have been achieved or not. The indicators must be clearly defined and easy to measure. Please refer to the KPIs in page 5 and answer the following questions.

1. Do you feel that there are some Key Performance Indicators missing? If your answer is yes, Please mention them.

2. Do you feel that there are some Key Performance Indicators that are irrelevant or non-critical to the achievement of HMC strategy? If your answer is yes, which ones and why?

3. Do you feel that the proposed Key Performance Indicators (KPIs) will;

- assist in translating HMC strategy into measurable KPIs?
- contribute to improving internal communication among employees?
- help in achieving strategic alignment across the organization?
- enhance employees' awareness on how their day to day work is linked to the organization strategy?
- assist in focusing everyone's time and efforts on strategic related issues?

4. What changes, if any, would you propose to the Key Performance Indicators?

Table 9: List of proposed objectives and KPIs for validation in the in-depth interviews

Perspective	Objectives (Objectives)	Key Performance Indicators
Stakeholders Perspectives	S1. Responsive, safe, compassionate care S2. Improved patient engagement & outcomes S3. Improved health and well-being	Patient Satisfaction Index Average Waiting Time Discharge Timeliness No. of Patient Complaints Community Engagement
Internal Perspectives	I1. Provide timely coordinated care I2. Deliver safe, high quality, team-based care I3. Design effective & efficient processes I4. Enhance inventory management and maximize purchasing power I5. Partnership with other healthcare providers "Better Together" I6. Develop Integrated Business Plan I7. Focus on Disease Prevention & Health Promotion	Length of stay compared to relevant benchmark Readmission within 30 days Target Bed Occupancy Rate Serious incidents Mortality index No. of patients per year per doctor No. of scientific publications % increase in total yearly grant funding Ambulance service response time
Learning and Growth Perspective (Building Capabilities)	L1. Recruit, develop & retain the right staff with the right skill set L2. Create a culture of workforce wellness, accountability, compliance & superior performance L3. Invest in infrastructure and integrated technology L4. Monitor and share health outcome data & intelligence L6. Drive innovation in clinical practices, high impact research & evidence-based decision L5. Empower our staff, our Qatari Nationals and clinical networks	Employee turnover rate Employee satisfaction index Employee absenteeism index Leadership retention rate Budget % invested in new technology/ infrastructure Staff productivity No. of Medical Students graduated Compliance with laws and regulations
Financial Resources Perspective	F1. Optimize available resources F2. Align funding with delivery of healthcare F3. commission new capacity F4. Develop strong Financial Stewardship	Amount of fund raised Cost per case compared to relevant benchmark Cost per patient day Change in cost per stay Ratio of operating expenses to revenue Budget variance

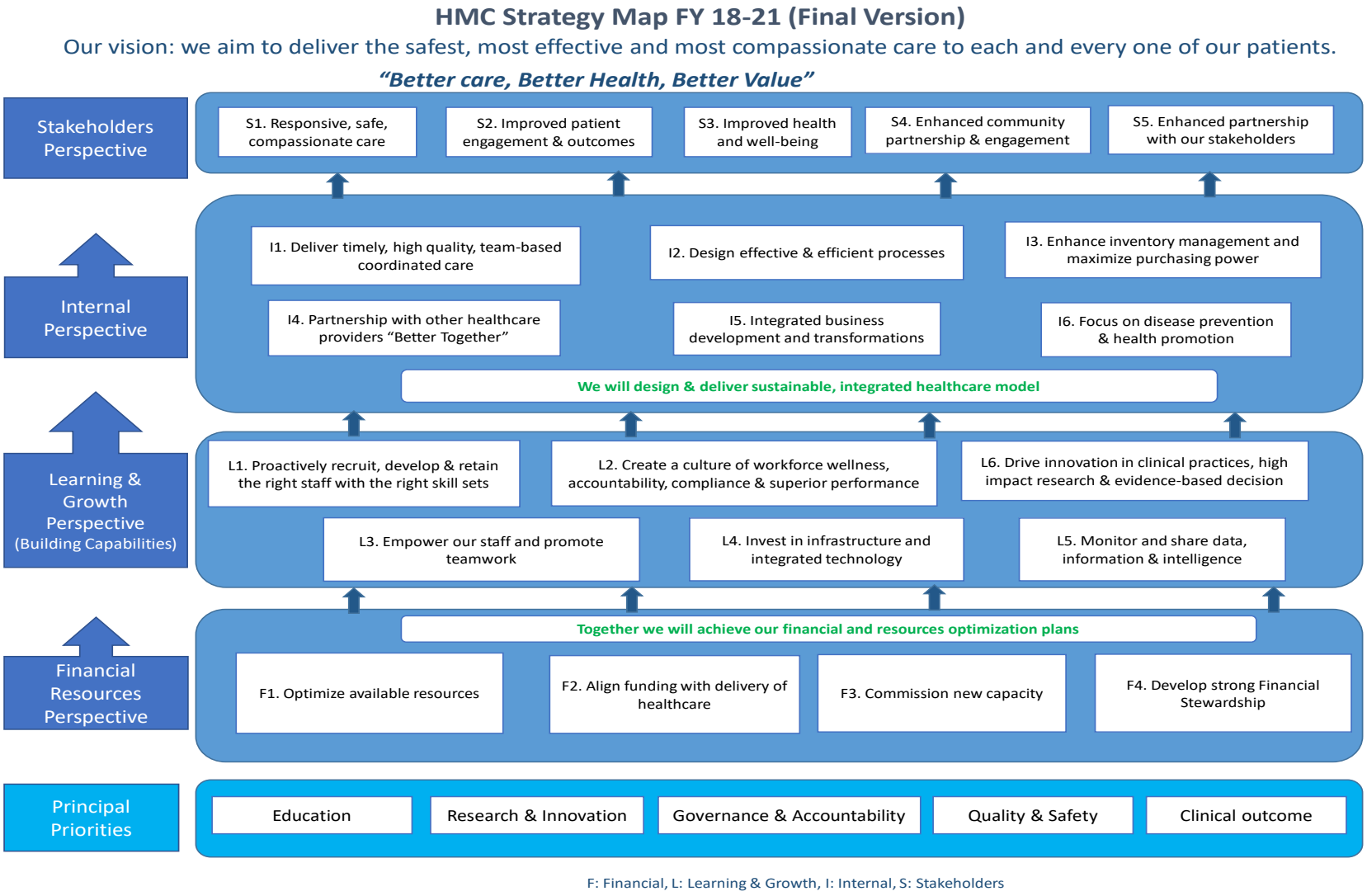

Figure 10: Final version of the proposed Strategy Map for HMC

Table 10: List of objectives and final KPIs

Perspective	Objectives (Objectives)	Key Performance Indicators
Stakeholders Perspectives	S1. Responsive, safe, compassionate care S2. Improved patient engagement & outcomes S3. Improved health and well-being S4. This is agreed by seven participants and added to the final list of KPIs. S5. Enhanced partnership with our stakeholders	Patient Satisfaction Index Average Waiting Time Discharge Timeliness No. of patient complaints and plaudits Community Engagement
Internal Perspectives	I1. Deliver timely, high quality, team-based coordinated care I2. Design effective & efficient processes I3. Enhance inventory management and maximize purchasing power I4. Partnership with other healthcare providers "Better Together" I6. Integrated business development and transformations I7. Focus on Disease Prevention & Health Promotion	Length of stay compared to relevant benchmark Readmission within 30 days Target Bed Occupancy Rate Serious incidents Adjusted mortality index Process effectiveness and efficiency Inventory turnover rate No. of patients per year per doctor Ambulance service response time Patient access and timeliness of care No. of Disease prevention programs
Learning and Growth Perspective (Building Capabilities)	L1. Proactively recruit, develop & retain the right staff with the right skill set L2. Create a culture of workforce wellness, accountability, compliance & superior performance L3. Empower our staff and promote teamwork L4. Invest in infrastructure and integrated technology L5. Monitor and share data, information & intelligence L6. Drive innovation in clinical practices, high impact research & evidence-based decision	Employee turnover rate Employee satisfaction index Employee absenteeism index Leadership retention rate % increase in Qatari Nationals in management, leadership and mission critical positions Budget % invested in new technology/ infrastructure Percentage of medical or sponsored students graduated as per study plan No. of peer reviewed scientific publications Compliance with Laws and regulations and accreditation standards % increase in total yearly grant funding

Perspective	Objectives (Objectives)	Key Performance Indicators
Financial Resources Perspective	F1. Optimize available resources F2. Align funding with delivery of healthcare F3. Commission new capacity F4. Develop strong Financial Stewardship	Amount of fund raised cost per case compare to internal and external relevant benchmark Cost per patient day Change in cost per stay Ratio of operating expenses to revenue Budget variance

Appendix D: Consent Form

Consent Form

Title: Designing Strategy Map for Hamad Medical corporation

Date:

Dear Participant:

This Interview is an attempt to validate the proposed Strategy Map and key performance indicators for HMC.

Your input is an essential element in this study and will be kept strictly confidential. This information will be used for research purposes only. Of course, your participation is voluntary. If you decide to participate, you will be asked to answer questions related to HMC strategy. You can skip any question or withdraw from participation at any time. The interview will take approximately 30 minutes from your valuable time. We appreciate your time and effort. If you have any questions about this study, please feel free to contact me at an1511723@qu.edu.qa

Sincerely,

Abdel Rahman Noufal

I have read the above statements and have been fully informed of the procedures to be used in this project

I have been given sufficient opportunity to ask any questions I had concerning the procedures and possible risks involved. I understand the potential risks involved and I assume them voluntarily. I likewise understand that I can withdraw from the study at any time without being subjected to reproach.

I agree to the Audio/Video recording of my interview Yes / No

_____	_____
Signature of Participant	Date
_____	_____
Name & Signature of Researcher	Date

Appendix E: Qatar University – Research Ethics Review Exemption

Qatar University Institutional Review Board
QU-IRB

March 5, 2018

Mr. Abdel Rahman Noufal
MBA Student Project
Qatar University
Tel.: 66728294
Email: an1511723@qu.edu.qa

Dear Mr. Abdel Rahman Noufal,

Sub.: **Research Ethics Review Exemption / Graduate Student Project**
Ref.: **Project titled, "Balanced Scorecard and Strategy Map in Healthcare Public Section: A Case Study from Qatar"**

We would like to inform you that your application along with the supporting documents provided for the above proposal, is reviewed and having met all the requirements, has been exempted from the full ethics review.

Please note that any changes/modification or additions to the original submitted protocol should be reported to the committee to seek approval prior to continuation.

Your Research Ethics Approval No. is: **QU-IRB 886-E/18**

Kindly refer to this number in all your future correspondence pertaining to this project.

Best wishes,

K. Alali

Dr. Khalid Al-Ali
Chairperson, QU-IRB