

Corporate performance management in healthcare

Case study: Mariaziekenhuis Noord-Limburg

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Preface

This master thesis makes up the final step in my education Master of Management, main subject Management Information Systems at Hasselt University. With a lot of pleasure I have investigated corporate performance management in healthcare. Of course this study didn't pass without ups and downs, and I could rely on the support and efforts of a few people to whom I would like to address a word of thanks.

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Tom

Summary

Economists and researchers are constantly looking for elements in the business environment that can have an influence on the performance of organizations. These many years of investigation have given us a better understanding of the working of micro and macro economical forces. Also in the current economical situation these experiences can be helpful in looking for solutions.

Since many years companies and researchers are searching for methods, concepts and theories that can lead to competitive advantages for organizations. This research resulted for instance in the resource based view, Porter's five forces model and the dynamic capabilities approach, each explaining the acquisition of competitive advantages in a different way. The underlying motive of acquiring a competitive advantage is generating better financial results, which is preceded by an improvement of the overall functioning of the organization. When talking about the organization's overall performance the link with the concept corporate performance management (CPM) is easily made. This gave rise to the focus of this paper: the development of a performance measurement model in a healthcare organization that is linked with the organization's vision, mission and strategy and based on the structure of the EFQM Excellence Model in corporate performance management.

The last decades of the previous century the emphasis was on decision support systems (1970's), executive information systems (1980's) and business intelligence (1990's). However, the last decade the concept corporate performance management has emerged in the area of managing and improving the internal functioning of organizations, and is of great importance in this paper. Corporate performance management describes the processes, methodologies, metrics and systems needed to measure and manage the performance of an organization, and is about measuring performance and comparing these measurements to predefined standards. Here it is important that the overall performance of the organizations is taken into account instead of only certain organizational parts like for example the monitoring of only the financial perspective.

Also very important is the role of the organization's strategy. For too long, organizations wanted to be everything to everyone instead of embracing a particular strategic orientation, while the business strategy is the first and most important performance measurement. There are several examples of organizations that have become leaders by choosing a strategy focus and directing their organization in function of the selected

strategy. Thus, besides the existence of a strategy, it is also important that the strategy is executed by the entire organization, and adapted to changes in the business environment if necessary. Linking the mission to the strategy and to the performance measures and metrics is of vital importance for the organization in the succeeding of corporate performance management and CPM instruments.

Throughout the years several corporate performance management instruments have been developed, of which the Balanced Scorecard and the EFQM Excellence Model probably are the most well-known instruments. During the discussion of the Balanced Scorecard (BSC) it becomes clear that the organization's strategy is a sort of red line throughout the whole method of working. The BSC consists of four perspectives, financial, customer, internal processes and learning and growth, each containing a set of critical success factors that are linked to the organization's vision, mission and strategy. For each of these critical success factors some key performance indicators need to be determined that in fact measure whether the predefined strategy is executed as stated. To help organizations with the development and implementation of a Balanced Scorecard a strategic map can be created, which makes the strategy's hypotheses explicit and describes the process to make them more meaningful for the staff members. Thus, the BSC is unique for each organization because of its link with the vision, mission and strategy. This is in contrast with the EFQM Excellence Model, which is build up around nine criteria and includes a set of standard statements through which the model is not linked with the organization's strategy. The model can be used to compare the performance of an organization with internal/external targets or other companies, and thus is more a benchmark instrument. Other corporate performance management instruments are Six Sigma, the European Quality Award, the Deming Prize and the Malcolm Baldrige National Quality Award.

Considering the increasing importance of services nowadays, corporate performance management in non-profit organizations and more specifically in healthcare organizations also becomes more important. Concerning these non-profit organizations some differences compared to profit organizations regarding the content and structure of the corporate performance management instruments can be seen. In this industry the perspective of the customer becomes the most important perspective in performance measurement. However, when applying corporate performance management and measurement in hospitals, the Belgian legislation on federal and Flemish level concerning performance measurement needs to be taken into account. To cope with these

regulations various indicator systems are developed and available for hospitals like Navigator, Delta, Netwerk Klinische Paden and Kwadrant.

The development of a generic performance measurement model for a hospital, composed by using the structure of the EFQM Excellence Model and linked with the organization's strategy, is based on a case study performed in the Mariaziekenhuis Noord-Limburg (MZNL). MZNL already applies some of the available performance measurement systems to measure performance in certain organizational areas and to comply with the Belgian regulations concerning performance measurement. However, these sets of performance indicators don't provide an organization-wide coverage, which makes it possible to suggest some additional relevant performance indicators linked with MZNL's strategic objectives.

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1 Introduction and problem statement

1.1 Introduction

For a long time researchers and companies are searching for factors and aspects that can improve the organization and the organization's results. As a result many theories and concepts that can improve a company's operations and products/services, and provide them with a competitive advantage with respect to their competitors have been developed through the years. Examples of these theories are for example Porter's five forces model, the resource based view and the dynamic capabilities approach. These concepts and frameworks show and explain how organizations can gain a competitive advantage over their competitors and thus generate superior (financial) results.

This paper deals more in particular with the internal functioning, strategy and organization of the company. During the second half of the twentieth century numerous systems have been developed which could help companies with the management and working of their internal business processes. In the 1970's the focus was on decision support systems, the 1980's were about executive information systems, and in the 1990's the emphasis was on business intelligence. The last decade however, corporate performance management (CPM) has emerged in this area of research and investigation concerning the improvement of the internal working and performance of organizations (Coveney, 2002).

Corporate performance management is an umbrella term that describes the methodologies, metrics, processes and systems used to monitor and manage the business performance of an organization (Buytendijk & Rayner, 2002).

An important aspect in corporate performance management is the role of the organization's strategy, as stated by Recardo & Wade (2001). They claim that, in the past, companies have been trying to be everything to everyone without choosing a particular strategic focus, whereas the business strategy is the first and most important performance measure for the organization. Companies should choose a strategy focus and direct their organization in function of the selected strategy in order to become leaders in their industries. Thus, in an organization the mission, strategy and objectives are of vital importance for the company's performance.

In corporate performance management there are several concepts (instruments, tools) that can be used to analyze and improve an organization's performance. To adopt and apply corporate performance management several frameworks are at the company's disposal to guide them in a successful implementation of performance management. The Balanced Scorecard (BSC) and the EFQM Excellence Model are two examples of these CPM solutions, and make up the focus of this paper.

Organizations can choose from diverse performance measurement instruments, but the Balanced Scorecard probably is the best known and most used instrument. First described by Kaplan & Norton (1992), the Balanced Scorecard is a framework that offers companies a 'balanced' view on their overall performance based on four organizational perspectives: financial, customer, internal business processes and learning and growth. Very important concerning the Balanced Scorecard is the noticeable link with the organization's strategy, which is of vital importance for a company according to Recardo & Wade (2001). They state that organizations choosing a strategy focus (product-, customer- or cost-focused strategy) and directing their organization in function of the selected strategy obtain superior results in their industry, and this is what the Balanced Scorecard achieves. The whole story of the Balanced Scorecard starts with defining the organization's mission, strategy and objectives. Then, from these objectives, determining a set of critical success factors (CSF), and for each CSF one or more key performance indicators (KPI). In this way the final performance measurement model is highly linked with the company's strategy.

To make the organization's mission, strategy and objectives understandable for employees on the lower levels the strategy map can be used. A strategy map is the visual representation of the organization's strategy and provides in a single-page view the specificity needed to translate the strategy into specific goals that are more meaningful for the organization's staff members (Kaplan & Norton, 2004). Developing such a strategy map makes it easier for organizations to translate the abstract vision and mission into clear objectives.

Another common used performance measurement model is the EFQM Excellence Model, developed by the European Foundation for Quality Management. This instrument differs from the Balanced Scorecard in that it divides the organization in nine criteria, of which five enabler and four result criteria. Another important difference compared with the BSC is that the EFQM Excellence Model isn't connected with the company's strategy and

objectives. The EFQM Excellence Model is an enterprise wide model which guarantees a complete approach and offers a set of standard statements. In essence the EFQM Excellence Model is a tool for companies to benchmark against internal and/or external targets.

Most profit organizations aim for gaining a competitive advantage with respect to their competitors to realize superior financial results. When measuring performance these organizations will constantly place the financial perspective on top, and from there define objectives for the customer, internal processes, and learning and growth perspectives. Not-for-profit organizations however have not the priority of generating profit, but emphasize the importance of the contributors and clients. The contributors are the donors who provide financial resources, while the clients are the ones who receive the services. In a non-profit organization, these two perspectives should be placed on top of the Balanced Scorecard, with an overarching mission statement which represents the long-term objective of the company. Up to now the use of the EFQM Excellence Model in the non-profit sector is still hardly described in the existing literature. Guidelines for non-profit organizations are not yet developed and possible adaptations to the original model for not-for-profit organizations are lacking.

Analogously to the use of the EFQM Excellence Model in the non-profit sector, the use of the Balanced Scorecard and the EFQM Excellence Model in healthcare also is hardly available in the literature. Therefore, the use of the BSC in healthcare will be shown on the basis of an example from the literature. The application of the EFQM Excellence Model in healthcare is the aim of this thesis and will be applied to the Mariaziekenhuis Noord-Limburg (MZNL). In this case study the purpose is to develop an EFQM Excellence Model including a set of indicators that are linked with the organization's mission, strategy and objectives.

1.2 Problem statement and research approach

1.2.1 Problem statement

For many years companies and researchers have been looking for ways to improve the functioning and results of organizations. The last decade, corporate performance management (CPM) has emerged in this area of research and investigation concerning the improvement of the internal working and performance of organizations. Numerous frameworks and models already exist which can help organizations measure and manage

their performance. Of these models the Balanced Scorecard and the EFQM Excellence Model are the most well-known and most used in business.

Important when evaluating and analyzing the organization's performance is the existence of a well-defined mission, objectives and strategy. When constructing and implementing a Balanced Scorecard in an organization, the starting points are the company's mission, objectives and strategy. From there the performance measurement model will be developed. In this way the aspects (key performance indicators, KPI) being measured also indicate whether the strategy is executed as assumed, because the KPI's are derived from the mission, objectives and strategy. However, when making use of the EFQM Excellence Model the absence of a link with the strategy is remarkable. This model only offers a standard questionnaire which actually leads more to benchmarking the organization against internal and/or external targets, instead of measuring whether the strategy actually is executed as stated. The most important issue here is the missing link between the measurement model and the organization's strategy. Because defining, following and measuring a certain strategy is of vital importance for an organization, this leads to the following research question:

Can a performance measurement model be developed for a hospital, based on the structure of the EFQM Excellence Model and linked to the organization's mission, strategy and objectives?

To answer this problem statement, a classification of four sub-questions is made. In this way the different aspects of the research question can be discussed separately, to finally come to an answer to the problem statement. The sub-questions written below should make answering the research question easier:

- 1. What is corporate performance management?*
- 2. Which CPM models exist and how do they function?*
- 3. What is the role of strategy in performance measurement?*
- 4. How do these CPM models function in non-profit organizations and more specifically in hospitals?*

1.2.2 Research approach

At first, to answer the above-mentioned research question and sub-questions a literature review needs to be done in order to gain insight into the different concepts and

performance measurement models. This involves obtaining a general view of corporate performance management and measurement and the existing CPM instruments. Also the role of the organization's strategy in the measurement and management of performance has to be examined. Furthermore, the application and possible adaptations of the most important CPM instruments in the not-for-profit sector need to be disclosed. Then, more specifically for healthcare organizations the differences and applications concerning the use of CPM systems have to be discussed. After this, a clear image of the use of performance measurement systems and indicators in the Mariaziekenhuis Noord-Limburg, and also the role of the government, needs to be obtained. All this information should make it possible to create a new performance measurement model, based on the EFQM Excellence Model and linked with the organization's vision, strategy and objectives.

1.2.3 Overview

Before the research question can be answered a thorough literature review needs to be performed. The concept corporate performance management is explained in chapter 2, as well as the role of the organization's strategy and an introduction to several corporate performance management instruments. Chapter 3 goes further into detail concerning the Balanced Scorecard, in which also the strategy map is dealt with. The working of the EFQM Excellence Model is discussed more detailed in chapter 4. In chapter 5 corporate performance management in healthcare is the main topic, and also corporate performance management in not-for-profit organizations is clarified here. Then the use of the Balanced Scorecard and the EFQM Excellence Model in not-for-profit and healthcare organizations is shown. Furthermore, also federal and Flemish regulations concerning corporate performance management in Belgian hospitals and a few indicator systems that are used by Belgian hospitals are covered. In the case study in chapter 6, performance measurement and management in the Mariaziekenhuis Noord-Limburg is dealt with, and the development of the new performance measurement model is shown. Finally, some conclusions are drawn and a few suggestions are given in chapter 7.

2 Corporate performance management

Nowadays the volatile business climate, global markets that make it easier for new companies to enter the market and product life cycles that are shrinking, make that organizations are always looking for the next 'big thing' in their quest for acquiring competitive advantages. Since a few decades performance management plays a significant role in achieving such a competitive advantage for organizations. In the 1970's decision support systems provided a way for companies to model the future and helped with solving complex business problems. By the 1980's executive information systems provided CEO's and their teams with technology to investigate the organizational strengths and weaknesses and access to internal and external information relevant to meet the strategic objectives of the company. In the 1990's the emphasis was on business intelligence to speed up the processes of planning, reporting and analysis and support decision making. According to Coveney (2002) it would seem that the next big thing should enable decision makers in organizations to confidently and knowledgeably help them to (re)formulate their strategy on an ongoing basis. And this is where corporate performance management comes into play. This chapter gives an overview of corporate performance management and the role of strategy in CPM.

2.1 What is corporate performance management (CPM)?

Corporate performance management (CPM) is a term introduced by Gartner Research, who defines it as "...an umbrella term that describes the methodologies, metrics, processes and systems used to monitor and manage the business performance of an organization" (Buytendijk & Rayner, 2002). The measurement of the overall performance in the company is the main issue in corporate performance management. From the above definition becomes clear that CPM involves the measurement of business processes and the acting on the outcomes of these measurement processes. This means that as soon as an analysis indicates that the real measured situation differs from the desired situation, action needs to be taken to bridge the gap. From this explanation four steps can be derived that describe the (cyclical) CPM-process:

1. Set standards
2. Measure the current situation
3. Analyze the observed situation by comparing with the desired situation
4. Undertake action based on the difference(s) discovered in the analysis

CPM systems do more than just collecting and reporting numbers. They not only support users through various processes in implementing and monitoring strategy, but also provide a single image of the organization through which all the users of a company can view the business performance on all aspects of the organization.

The combination of the nine characteristics of CPM systems mentioned below can provide organizations with powerful management tools that provide the users with the necessary knowledge and guidelines on how to execute their roles in the implementation of strategy in the company (Coveney, 2002).

Nine characteristics of CPM systems:

- Complete integration
- Enterprise wide
- Focus on exceptions
- Automate the processing of data
- Filter and format data
- Provide end users with access to information
- Support collaboration
- Provide insight
- Automated monitoring of vital signs

In addition, there have to be some motives and drivers for the company's board to implement corporate performance management (systems) in their organization. The following business benefits indicate that it should be beneficial for a company to adopt and implement corporate performance management. The fragmented discontinuous top-down planning process will be replaced by a collaborative planning process that closes the loop between business strategies, business measures and business actions thanks to the alignment of goals. Information that is critical for the mission and vision of the company will be provided to decision makers through increased business agility. A collaborative management will synchronize the communication of business goals, strategies and metrics across global areas and allow the users to view, share and use critical information simultaneously. A streamlined reporting system will minimize problems associated with reporting detailed data from various databases and applications. An improved consolidation process combines all corporate data from various business departments regardless of source for a snapshot of the overall performance

across the whole organization and thus reducing the budgeting cycle by eliminating data transfer errors, manual reconciliation and spreadsheet management (Bauer, 2003).

To conclude, corporate performance management is about the measurement of performance in the entire organization without focusing only on the financial figures. Before companies can begin with the measurement of their performance, they first need a sort of reference point to compare their measures with. This all starts with the selection of an appropriate strategy for the organization, which will be discussed in the following section.

2.2 The role of strategy in CPM

According to Recardo & Wade (2001), for too long organizations have been trying to be everything to everybody, without embracing a particular strategy focus while the business strategy is the first and most important performance measure. Take for example General Electric, which was one of the most profitable companies in 2000. GE started by differentiating itself from its competitors by determining a product-focused strategy and by orienting the whole organization toward the implementation and execution of that strategy. When GE's domestic growth began slowing down, they changed their strategy to become more customer-focused and transformed itself into a service-oriented organization to go along with changes in the business environment. Not only GE, but also other companies became leaders in their industries by choosing a strategy focus and directing their organization in function of the selected strategy. How an organization deploys its resources is directed by the strategic focus, and the overall performance of the company should be tested against those critical aspects determined in the strategic policy of the organization. Concerning the strategic focus of organizations there are three possibilities: product-focused, cost-focused and customer-focused.

The business advantages described above can encourage organizations to adopt and implement corporate performance management in their company. In these business benefits the mission and strategy play a remarkable role in the whole story of corporate performance management. This was also indicated by Recardo & Wade (2001), who stated that there are four basic concepts at the heart of corporate performance management which are embraced by managers of organizations with the highest return on equity. The first concept states that top managers should adopt a well-defined business strategy that is communicated throughout the organization. In addition they

also need to close the gaps between technology and the process architecture that exist in an organization. Furthermore, top managers need to align all the activities in an organization from the top to the bottom, and adopt the use of a particular set of key performance measures which covers various performance categories.

Thus, for an organization to excel and realize extraordinary results management must choose a specific business strategy, a plan to implement this strategy, and a performance measurement system that ties every aspect of the company, from the board to the work floor, to this strategy (Recardo & Wade, 2001). Further, developing a strategy alone is not sufficient; the strategy also has to be executed in order to have a reference point when evaluating the organization wide performance. However, several organizations are measuring performance without knowing what they actually are measuring. Therefore it is really important that the measures which organizations use to measure their performance are linked to the company's strategy. Through this the outcome of the organization wide performance measurement can be compared with the predetermined strategy of the company. This implies that an organization can actually determine whether the strategy is executed.

Thus, linking the mission to the strategy and to the performance measures and metrics is of vital importance for the organization in the succeeding of corporate performance management and CPM systems. Throughout this paper this relation will be discussed more thoroughly, in combination with the use of the strategy map. The following chapter gives a literature review of the most important instruments to measure performance and quality in organizations.

2.3 Instruments to measure organizational performance

As already mentioned a strategy and alignment management, this is tying every aspect of the organization to the strategy, are necessary to achieve high levels of success. A third component of corporate performance management is to measure the critical activities of an organization. During the last decades diverse instruments are developed and made available for organizations which provide them with a well-organized framework for performance measurement and management. Probably the most familiar instrument is the Balanced Scorecard, but also the EFQM Excellence model is a common used concept. This part gives an introduction to the Balanced Scorecard, the EFQM Excellence Model, the Six Sigma concept and a few quality awards which provide a

framework to apply corporate performance management in companies. In chapter 3 and 4 the Balanced Scorecard and the EFQM Excellence Model, which are the most important in this research, are discussed more into detail.

2.3.1 The Balanced Scorecard

The Balanced Scorecard (BSC) is the first corporate performance management instrument that will be discussed. The Balanced Scorecard was first introduced to the public by Kaplan & Norton (1992) and is a framework for performance measurement that is highly linked to the organization's strategy, which is very important as already mentioned. The framework is in balance in that way that, except the traditional financial measures, it also contains metrics concerning customers, internal processes and learning and growth. In this way it offers a measurement for organization wide performance. Characteristic for the Balanced Scorecard is that the instrument is different for all organizations, because it is linked to the strategy of the company. The starting point of this CPM instrument is the organization's vision, mission and strategic objectives, which are translated into a set of critical success factors (CSF). Furthermore, for each of these critical success factors a set of key performance indicators (KPI) needs to be determined. This approach results in a set of measures that are linked to the organization's strategy. Because of this the organization can monitor whether their policy that is prescribed beforehand is executed as stated. A more detailed explanation of the Balanced Scorecard is given in chapter 3.

2.3.2 The EFQM Excellence Model

The EFQM Excellence Model is a CPM instrument developed by the European Foundation for Quality Management as an answer to the American Total Quality Management (TQM). In essence, the EFQM Excellence Model is a self-assessment instrument that addresses every aspect of the organization and is used to improve the functioning of companies and realize 'excellent' performance. The EFQM Excellence Model is build up around nine criteria, of which five criteria are 'enablers' and four criteria are 'results'. The enabler criteria are leadership, policy and strategy, people, partnerships and resources and processes. The results criteria are customer results, people results, society results and key performance results. An important difference with the BSC is that the EFQM Excellence Model is the same for all organizations, because it is not linked to the organization's strategy. This performance measurement instrument consists of a number

of standard statements with a universal scoring system, and is designed to allow companies to benchmark themselves with internal or external targets like other organizations. A more thorough discussion of the EFQM Excellence Model is covered in chapter 4.

2.3.3 Six Sigma

Six Sigma is a statistics-based methodology created and used by Motorola in the mid 1980's. It involves adjustments to the firm's values and culture for its introduction, and therefore is considered as a breakthrough management strategy (Metri, 2007). Based on his experience Gupta (2004) developed the Six Sigma Business Scorecard, which addresses the need for managers to put their arms around the whole organization and not just its parts. The Six Sigma Business Scorecard can be used by organizations that offer services or products, large or small businesses, public or private, and with one or multiple locations. This scorecard is a corporate performance management instrument and has the intention to help organizations not only in understanding their company's performance, but also in planning success.

The Six Sigma business scorecard combines several measurements into seven elements, as shown in Figure 2.1:

1. Leadership and profitability
2. Management and improvement
3. Employees and innovation
4. Purchasing and supplier management
5. Operational execution
6. Sales and distribution
7. Service and growth

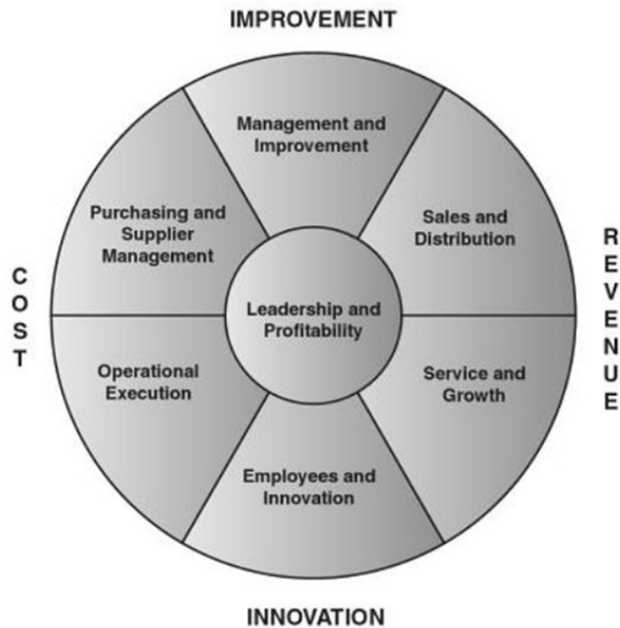


Figure 2.1: Six Sigma Business Scorecard (Gupta, 2004)

The seven categories are also shown in Figure 2.2, each containing a number of measurements which are more oriented to process than to function. The aim of these measurements is to make the activities, critical to an organization's wellness and profitability, efficient. This list of measurements is by no means universal, and is linked to the organization's objectives, as can be seen in Figure 2.2. The challenge lies in deciding which measurements to exclude and which to include. The measures listed are applicable to most businesses, but if a certain measurement is not suitable for an organization it can be deleted from the set or it can be replaced by an alternative measurement. There is no absolute system that can be used by all companies, because each organization has a different culture and strategy (Gupta, 2004).

| Categories | Objectives | Measurements |
|--|--|--|
| Leadership and Profitability (LNP) | Lead company to wellness and profitability | Communication |
| | | Inspiration |
| | | Planning Accuracy |
| | | Community Perception |
| | | Employee Perception |
| | | Employees' Recognition |
| | | Compensation/Profitability |
| | | Asset Utilization |
| | | Return on Investment |
| | | Debt-to-Equity Ratio |
| | | Profitability |
| Management and Improvement (MAI) | Drive dramatic improvement | Shareholders' Value Growth |
| | | Goal Setting |
| | | Rate of Improvement |
| Employees and Innovation (EAI) | Involve employees intellectually | Planning for Improvement |
| | | Employee Innovative Recommendations per Employee |
| | | Investment per Employee |
| Purchasing and Supplier Management (PSM) | Reduce cost of goods or service | Number of Patents or Publications per Employee |
| | | Material Acceptance |
| | | Total Spend/Sales |
| | | Suppliers' Defect Rate (Sigma) |
| Operational Execution (OPE) | Achieve performance excellence | Suppliers' Involvement in Development |
| | | Cost of Goods/Service Sold |
| | | Operational Cycle Time |
| | | Process Defect Rate (Sigma) |
| Sales and Distribution (SND) | Manage customer relationships and generate revenue | Customer Defects/Total Defects |
| | | Number of Inquiries |
| | | New Business (\$)/Total Sales (\$) |
| Service and Growth (SAG) | Gain competitive advantage and grow | Profit Margins (\$)/Sales (\$) |
| | | Customer Satisfaction |
| | | Customer Retention |
| | | Repeat Business (\$)/Total Sales (\$) |
| | | New Product or Services |
| | | Patents or Trademark |

Figure 2.2: Six Sigma Business Scorecard measurements (Gupta, 2004)

The outcome of the measurements of the different measures of the Six Sigma Business Scorecard again can be compared with internal or external measures in order to determine shortcomings in the entire organization. The Six Sigma Business Scorecard can be compared with the Balanced Scorecard, because the measures that are used are dependent from the company's strategy and objectives. Each organization will end up with a different set of indicators to measure its corporate performance. However, instead of four perspectives the Six Sigma Business Scorecard consists of seven organizational elements that also comprise the entire company.

Until now the content and working of four different corporate performance management systems have been discussed. The next chapter deals with the use of corporate performance management and the application of CPM systems in organizations in the

not-for-profit sector. More specifically the functioning of the Balanced Scorecard and the EFQM Excellence Model in this sector will be examined.

2.3.4 Quality awards

To perform a self assessment organizations can make use of various reference models. This section describes the three most important models: the European Quality Award (Europe), the Deming Prize (Japan) and the Malcolm Baldrige National Quality Award (United States).

2.3.4.1 European Quality Award

As already mentioned the European Foundation for Quality Management (EFQM) was founded in 1988 on the initiative of fourteen large organizations to enhance the competitive strength of European companies. To reward organizations that deliver extra efforts concerning integral quality management, the EFQM developed the European Quality Award, the European equivalent of the Baldrige Award. The organizations that are competing for the award are being evaluated with regard to the nine criteria of the EFQM Excellence Model, each consisting of a number of sub-criteria (Porter & Tanner, 2004).

The award has four categories:

1. Large organizations
2. Operational entities of large organizations
3. Public organizations
4. Small and medium-sized enterprises (SMEs)

2.3.4.2 Deming Prize

The Deming Prize is a Japanese quality award developed by the Union of Japanese Scientists and Engineers (JUSE), and is named after W. Edwards Deming for his efforts in the field of quality management in Japan. The structure of the Deming Prize consists of two viewpoints: on the one hand the role of the management is tested using five criteria; on the other hand the organization is being evaluated using a set of ten criteria.

The prize now has three award categories:

- Deming Prize for individuals

- Deming Application Prize
- Quality Control Award for Factories

The Deming Prize's strong aspects are that it focuses on Kaizen improvement actions, leadership of top management, the future vision and process control (Lambrix, 2008). The organizations that have strived for the Deming Prize have had a valuable experience and acknowledged that they have achieved business success through quality improvement. This has encouraged other organizations to work on quality management. Organizations that qualify for the Deming Prize are those that have delivered extra efforts in the field of quality management in the whole company (www.deming.org).

2.3.4.3 Malcolm Baldrige National Quality Award

Another less known and used performance framework is the Malcolm Baldrige National Quality Award (MBNQA). The MBNQA (www.nist.gov/baldrige) was created in the mid-eighties as a part of the Malcolm Baldrige National Quality Improvement Act of 1987, which had the goal of enhancing the competitiveness of U.S. businesses. Throughout the years its scope has been extended to education and healthcare organizations (1999), and to non-profit and governmental organizations (2005). The program establishes guidelines to organizations to help them and to evaluate their own improvement efforts concerning quality and framework for improvement (De Jong, 2009). With the Award Program Congress wants to achieve:

- Identification and recognition of role-model businesses
- Establishment of criteria to evaluate improvement efforts
- Circulate and share best practices

The MBNQA provides a framework that focuses on obtaining the highest levels of organizational excellence, and stresses the alignment of the highest mission statement to the objectives of employees (De Jong, 2009). Furthermore, an assessment tool for organizations for understanding organizational strengths and opportunities for improvement is also provided. The framework, shown in Figure 2.3, focuses on critical management aspects that influence organizational performance excellence, and consists of the following seven criteria:

- Leadership
- Strategic planning
- Customer focus

- Measurement, analysis and workflow management
- Workforce focus
- Process management
- Results



Figure 2.3: Baldrige Criteria for Performance Excellence Framework (www.nist.gov/baldrige)

Compared to the previous performance frameworks, BSC (four perspectives) and EFQM Excellence Model (nine criteria), this model uses seven criteria. These criteria can be used to identify Baldrige Award recipients and to help organizations in assessing their improvement efforts, diagnosing their overall performance management system and identifying their strengths and opportunities. The framework can be used by an organization to structure its own pursuit of quality and excellence. An additional self-analysis worksheet is also available for organizations to accelerate organizational performance. How an organization performs in each of the seven categories ultimately determines whether the company receives the award (www.nist.gov/baldrige).

However, the achievement of the MBNQA is less significant in this paper. Here, it is important that the framework can be used to assess the organizational performance and can be used to pursue organizational excellence by determining its strengths and opportunities. Finally, it is also important that this framework acknowledges the importance of alignment of the organization's objectives, which is also present in the Balanced Scorecard but not yet in the EFQM Excellence Model.

3 The Balanced Scorecard

The Balanced Scorecard was first used by the company Analog Devices in 1987 and introduced to the public by Kaplan & Norton (1992) after a yearlong research project. The BSC consists of a set of measures that should give top managers a fast and all-embracing image of the business, and became popular as managers realized that they were relying too much on financial measures only (Recardo & Wade, 2001). In addition to financial measures, which are the results of actions that already have been taken (historical data); the BSC also contains operational measures about customer satisfaction, internal processes and innovation and development activities of the organization. The 'balance' implies that also non-financial metrics are used, so that an overall view of the company's performance can be obtained.

In their work Kaplan and Norton (2005) compare a Balanced Scorecard with the cockpit of an airplane. The pilots need detailed information about various aspects of the airplane to accomplish their complicated task of navigating and flying the plane. They need to obtain information about fuel, altitude, speed, position, destination and other indicators that summarize the current and predetermined situation. Reliance on only one indicator can be fatal. Analogously, an organization needs to be aware of and deal with diverse aspects that indicate the position, strengths, weaknesses, opportunities and threats of the company and be able to view business performance in various areas at once.

That is why the Balanced Scorecard, schematically presented in Figure 3.1, offers managers and board members a look at four business areas simultaneously. These four perspectives are:

- What are the expectations of our shareholders? (*financial perspective*)
- What are the expectations of our customers? (*customer perspective*)
- How do we have to organize our internal processes to fulfil the two previous perspectives? (*internal business process perspective*)
- Can we continue to improve, develop and create value? (*learning and growth perspective*)

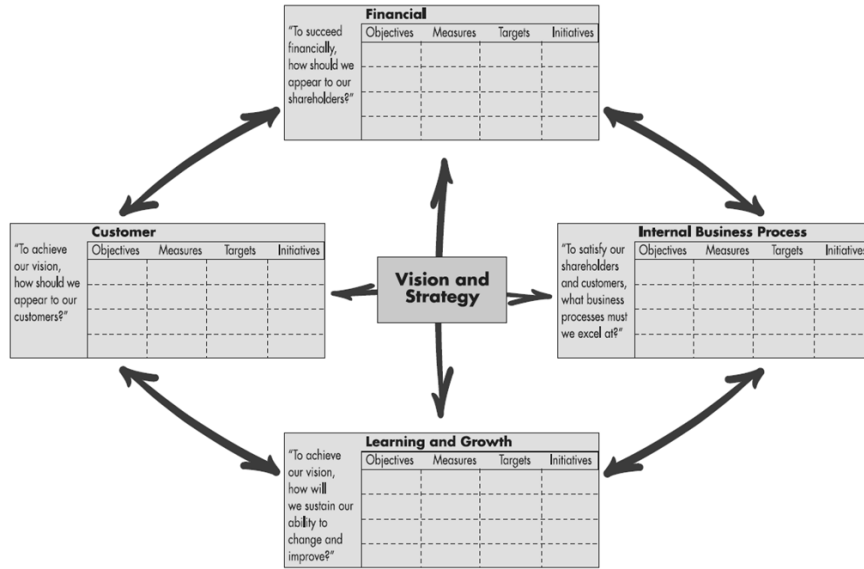


Figure 3.1: The Balanced Scorecard (Kaplan & Norton, 2007)

3.1 Financial perspective

Financial performance provides the ultimate definition of a company’s success (Kaplan & Norton, 2004). Of course the financial results are of vital importance, because without oxygen an organization cannot live long. The shareholders of an organization deliver the necessary financial resources and thus have to be kept satisfied. Financial performance measures traditionally are market share, cash flow and return on investment (ROI). But purely judging on financial results is like driving a car while looking constantly in the rear-view mirror, because financial results reflect the past and not the future. This is why there is a need for additional points of view.

3.2 Customer perspective

“To be number one in delivering value to customers” is a typical mission statement of many organizations today. Therefore it has become a top priority for management how a company is performing from the perspective of its customers. Satisfied customers don’t run away to competitors but stay with the company and furthermore bring new customers with them. In the long term this will secure the profitability of the organization. Therefore choosing the customer value proposition is the central element of the organization’s strategy (Kaplan & Norton, 2004). Customers’ concerns can generally

be divided into four categories: quality, performance, time and service. The goals for each of these classifications should be articulated, and then translated into specific measures.

3.3 Internal business process perspective

What managers have to do is focusing on those internal business processes that enable them to satisfy their customers and deliver value to them. The soundness of the supplied products and/or services lays the foundation for the customer satisfaction and is the result of the functioning of the internal processes. It means therefore to have good and reliable internal processes which lead to the desired products and services, which satisfy the needs and demands of the customers. Also the core competencies of the organization should be identified and measured, which are needed to ensure market leadership. Some possible measures of internal business processes are cycle time, productivity, cost and quality.

3.4 Learning and growth perspective

The targets for success keep changing. The increase of global competition makes that organizations constantly need to make improvements to their products, services and processes and need to obtain the ability to introduce new products and services in order to cope with the continuously changing business environment. Furthermore intangible assets are the ultimate source of sustainable value creation (Kaplan & Norton, 2004). The extent to which the organization is capable of innovating, developing, adapting to the continuously changing business environment and constantly acquiring the necessary relevant knowledge, skills and capabilities, is connected to the survival and value of the company. Performance measures of innovation and learning can be for example the time to introduce a new product and the percentage of sales from new products.

These four business areas shouldn't be regarded separately, but as a whole because there is an interaction between these perspectives as shown in the previous paragraphs and in Figure 3.1. As shown in Figure 3.2, the Balanced Scorecard is also a combination of measures from the past, present and future, internal and external measures, and also of financial and non-financial metrics.

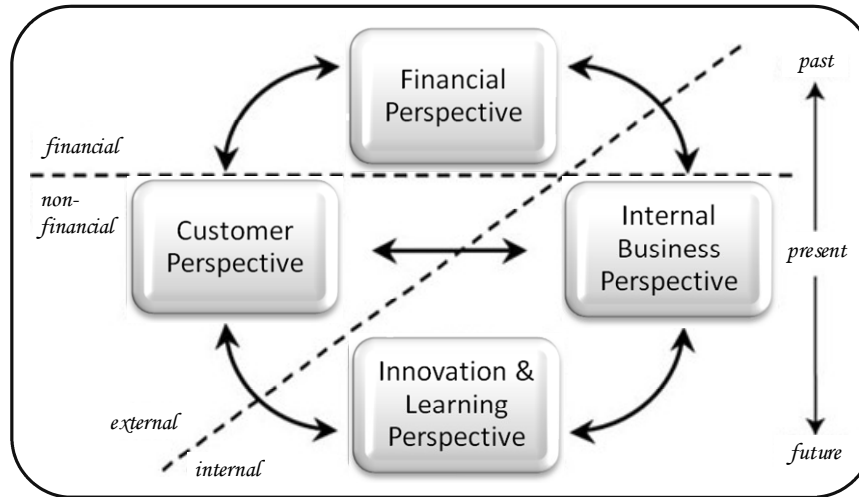


Figure 3.2: Interaction between the four business areas of the BSC (own version)

An important aspect in the construction of the balanced scorecard is that it is driven by the strategy of the organization. The mission, vision and its accompanying strategy actually are the starting point of the BSC as shown in Figure 3.3. Starting from the vision, objectives and strategy the critical success factors (CSF's) of the organization have to be determined according to the four performance perspectives. Subsequently some key performance indicators (KPI's) or critical measures have to be formulated for each critical success factor. A standard should be set for each key performance indicator, so that it can be verified whether the CSF's perform as expected and thus if the strategy is executed as predetermined by the organization's board.

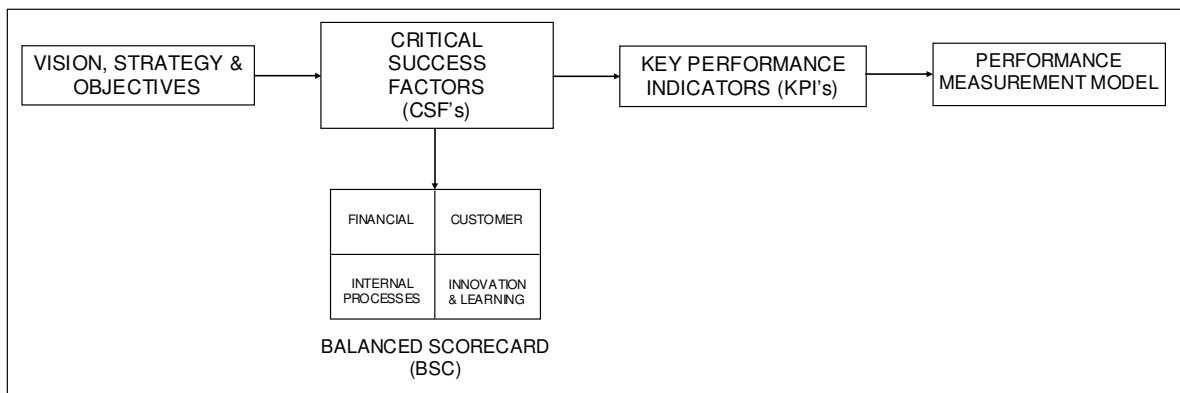


Figure 3.3: The link between strategy and measurement in the BSC (own version)

Because the Balanced Scorecard starts with the mission, strategy and objectives of an organization, the BSC is a measurement model that is entirely adapted to the company and its environment. Therefore, a Balanced Scorecard can never be copied by another company, because their mission statement will be different. Thus, each Balanced Scorecard is tailored to the company's needs, and is dependent on the strategic focus of the organization and the aspects the board emphasizes.

The next section deals with a framework that needs to be performed when starting with the design of the Balanced Scorecard, namely the Balanced Scorecard strategy map. This strategic map should make it easier for organizations to translate their implicit strategy into explicit objectives for their staff members, and facilitates the link between the vision, strategy and objectives and the measures of the Balanced Scorecard.

3.5 Strategy map

As already mentioned the role of the organization's strategy is very important when using the Balanced Scorecard. The strategy of an organization describes how the company wants to create value for its customers, shareholders and other stakeholders. During their research, Kaplan & Norton (2004) discovered that when organizations were designing a Balanced Scorecard for their company they were forced to rethink their strategic priorities and describe their strategies. This led to the important principle that 'you cannot measure what you cannot describe'. And this is where the strategy map plays an important and helpful role.

A strategy map, as shown in Figure 3.4, is the visual representation of the organization's strategy and provides in a single-page view the specificity needed to translate the strategy into specific goals that are more meaningful for the organization's staff members (Kaplan & Norton, 2004). The strategy map makes the strategy's hypotheses explicit and describes the process for transforming intangible assets into tangible customer and financial outcomes. It is a generic architecture for the description of a company's strategy, and embeds each measure of the Balanced Scorecard in a chain of cause-and-effect logic that connects the desired outcomes from the strategy with the drivers that lead to these strategic outcomes (Kaplan & Norton, 2001). The cause-and-effect logic constitutes the hypotheses of the strategy. As can be seen in Figure 3.4, the strategy map is clearly connected to the balanced scorecard, in that way that the four business areas from the Balanced Scorecard are also included in the strategy map.

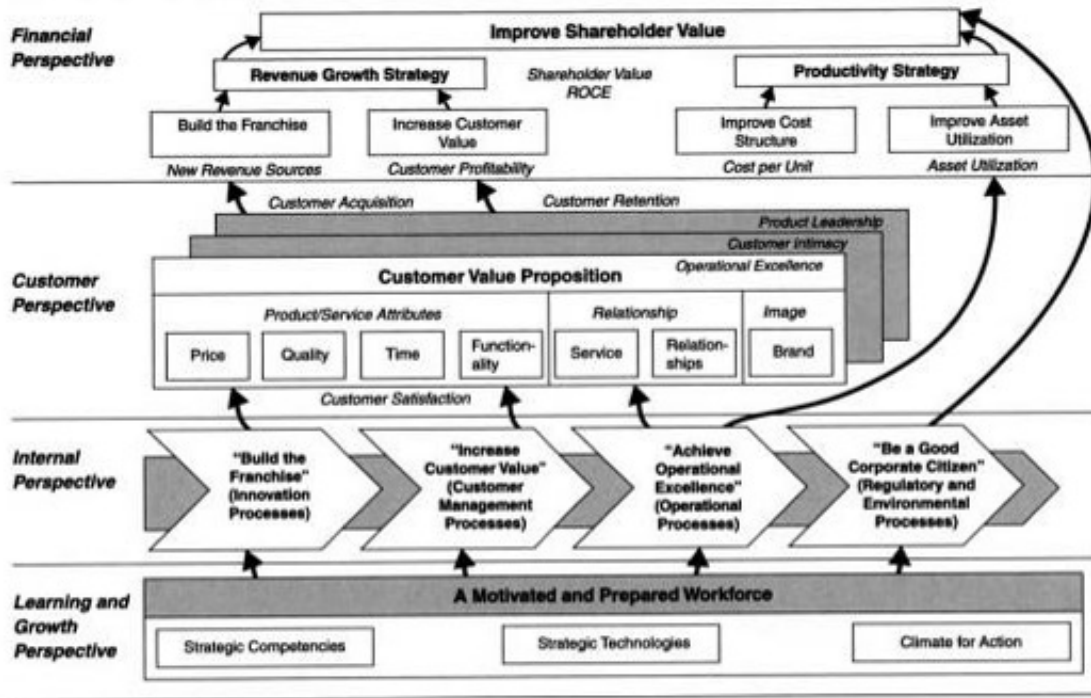


Figure 3.4: Describing the strategy: The Balanced Scorecard strategy map (Kaplan & Norton, 2001)

The architecture of the strategy map is in essence derived from the architecture of the Balanced Scorecard. Not only the four performance areas correspond but, as also can be seen in Figure 3.4, the top-down structure is similar to the architecture of the Balanced Scorecard, shown in Figure 3.5. The process begins in a top-down fashion, starting with defining the strategy from the perspective of the shareholders (financial) and the customers. The first things that should be defined are the financial objectives for productivity and growth. After this is done, the organization needs to determine who their target customers are, and how they deliver value to these customers and distinguish themselves from the competition in order to attract and retain customers. These financial and customer objectives are desired outcomes, and don't explain how to attain them. This is where the other two perspectives, the internal business process and learning and growth, serve for. The internal business processes define the activities that are necessary to deliver the right value proposition for their customers, and deliver the desired financial outcomes for the shareholders. Finally the learning and growth perspective defines that the organization has to go along with changes in the business environment. Changes in customer needs and globalization issues make that the internal

business processes need to evolve. This will be based on acquiring new skills, capabilities and resources, the organization infrastructure, and the technology that is being used (Kaplan & Norton, 2001).

How all the previous is linked together can be seen in the strategy map, in Figure 3.4, which gives a cause-and-effect overview of the organization's strategy and objectives. As already mentioned, is the strategy map created in a downward flow where each dimension (perspective) is completed in the context of how it will help to accomplish the dimension above it. However, note that the arrows flow upward (Scholey, 2005). This indicates that an objective below explains how an objective above can be achieved, for example product quality can trigger an increase in customer value.

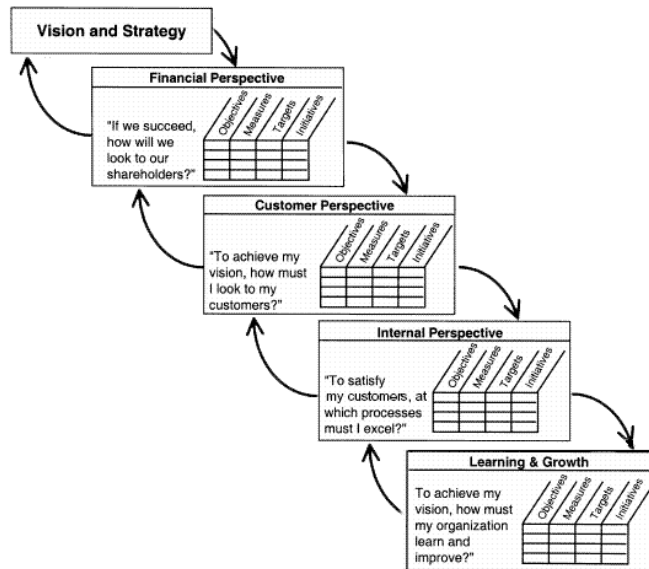


Figure 3.5: The architecture of the Balanced Scorecard (Kaplan & Norton, 2001)

By using cause-and-effect diagrams in the strategy map, a strategy can be presented in such a way that not only those who formulate the strategy understand it, but also the majority of the organization's staff members. By this, strategy mapping can be a powerful tool, but can be difficult to learn and execute (Scholey, 2005). Therefore Scholey (2005) created a framework that results, besides a completed strategy map, also in a well-understood strategy that can be communicated throughout the whole company. This six-step process is made up of the following steps:

Choose the overriding objective

The first step in creating a strategy map is defining the one objective that the organization strives to achieve, the company's overriding objective. In the private sector this vision is mostly financial, like for example maximizing shareholder wealth, but there can also be non-financial elements in it. In a not-for-profit or governmental organization this vision captures the essence what the organization stands for.

Select an appropriate value proposition

The following aspect is defining the strategy in the context of how the organization will add value to its target customers and markets. There are three possible strategies a company can implement according to their chosen overriding objective, namely: product-focused, customer-focused, or cost-focused (Recardo & Wade, 2001).

Determine general financial strategies to follow

Growing revenue and at the same time reducing costs is something almost every organization wants. To achieve this, the key is to choose the optimal mix of three financial strategies, revenue growth, productivity and asset utilization, to maximize value to the target markets.

Determine customer-focused strategies

Here, specific decisions have to be made in terms of what attributes will be offered to the customers. Cost leadership or product leadership has to be aimed for in order to retain and acquire profitable customers.

Decide how internal business processes will support the execution of the chosen strategies

The internal processes, that are necessary to execute the four previous steps, must be focused on performance specifically within the context of how the organization wants to execute its strategy. If they are not, the chosen strategy probably will not be fully executed.

Implement the capabilities and employee programs that are needed to achieve the prescribed strategy

When completing steps one to five, the company will become aware of certain gaps between the existing skills and capabilities that are present in the organization today and those required to properly execute the chosen strategy. To keep up with the competition and be able to respond to the changing business environment, the organization needs to continuously renew itself in the field of innovation, employee training, new products, etc.

Following this six-step program has, according to Scholey (2005), proven to be effective for several organizations, but further investigation is beyond the scope of this paper.

Strategy mapping is an approach that can help organizations to overcome the difficulty of describing and communicating their business strategy. Through the use of strategy maps the relations between the different objectives in the four perspectives of the Balanced Scorecard become clear and in that way can help the organization in determining their critical success factors (CSF's). Thus, the strategy map can be a helpful tool in creating a performance measurement model that is strategy-driven.

As a conclusion, the Balanced Scorecard is a framework for performance measurement that expresses the strategy of an organization as a set of goals from four perspectives. By comparing these measures with the company's objectives, the Balanced Scorecard can help the organization in achieving its overall mission and strategy. The organization's strategy plays an important role when using the Balanced Scorecard, which is why the strategy map also is a tool that is discussed in this section. This strategy map can help the Balanced Scorecard in defining the organization's critical success factors and provides a better communication of the strategic objectives throughout the company. The following performance measurement model that will be dealt with is the EFQM Excellence Model and will be discussed after an example of the Balanced Scorecard is shown.

3.6 Case example

To show the working of the Balanced Scorecard, Kaplan and Norton (2005) described in their paper how a semiconductor company, with the fictitious name Electronic Circuits Incorporated (ECI), created their own Balanced Scorecard. ECI saw the Balanced Scorecard as a way to clarify, simplify and operationalize the organization's top vision, mission and strategic objectives and the BSC was designed to focus the top executives' attention on a list of critical indicators. The following is a description of ECI's

interpretation of the four perspectives of the Balanced Scorecard, also shown in Figure 3.6 where the measures obviously are linked with the organization's goals.

Customer perspective

Concerning the customer perspective ECI's senior management set a number of general goals:

- Get standard products to the market sooner
- Enter into partnerships with customers to become their supplier of choice
- Develop innovative products that fit the customer's needs

These general goals were translated into four specific goals, with each an appropriate measure. To measure the goal of delivering new products to market, ECI measured the percentage of sales from new products and from proprietary products. Most information about this aspect was available inside the organization, but for certain data the company needed to search externally. To assess the reliability and responsiveness of supply, ECI applied the measure on-time delivery. When analyzing this data ECI came to the conclusion that the definition of 'on time' was different for them as for their customers, which led to a revision of the applied measure. This shows that using the BSC is a continual process with continuous adaptations if necessary. Whether ECI was a preferred supplier among their customers was determined by the share of key account's purchases and the ranking by key accounts.

Internal business perspective

Those internal processes need to be focused on what enables them to satisfy customer needs. For ECI the managers came to the conclusion that submicron technology capability was critical to its market position. In addition the focus of their internal business perspective also had to be on manufacturing excellence, design productivity and new product introduction. These general goals were translated by ECI into more specific measures like cycle time, unit cost, silicon efficiency and actual introduction schedule versus plan, also shown in Figure 3.6. Much of the action takes place at the department and workstation levels, which means that these measures need to be decomposed in order to ensure that employees at lower levels have clear targets for actions, decisions, and improvement activities that will contribute to the organization's overall mission.

Innovation and learning perspective

The targets for success keep changing. For ECI innovation measures focus on the organization’s capability to develop and introduce standard products to the market rapidly. This means products that form the bulk of ECI’s future sales. Concerning the manufacturing improvement measure the focus is on new products and the objective is to improve stability in the manufacturing of new products rather than improving the manufacturing of existing products. As one of its innovation and learning measures ECI uses the percentage of sales from new products, as well as process time to maturity and time to develop next generation. This perspective is important for continuous improvement in customer satisfaction and internal business processes.

Financial perspective

The financial goals were stated simply by ECI; they wanted to survive, to succeed and to prosper. The measures linked to these objectives were cash flow, quarterly sales growth and operating income by division, and increased market share and ROE. Figure 3.6 shows an overview of these four perspectives for ECI, containing abstract goals and specific measures.

| Financial Perspective | | Customer Perspective | |
|-----------------------|---|-----------------------|---|
| GOALS | MEASURES | GOALS | MEASURES |
| Survive | Cash flow | New products | Percentage of sales from new products |
| Succeed | Quarterly sales growth and operating income by division | | Percentage of sales from proprietary products |
| Prosper | Increased market share and ROE | Responsive supply | On-time delivery (defined by customer) |
| | | Preferred suppliers | Share of key accounts' purchases |
| | | | Ranking by key accounts |
| | | Customer partnerships | Number of cooperative engineering efforts |

| Internal Business Perspective | | Innovation and Learning Perspective | |
|-------------------------------|--|-------------------------------------|--|
| GOALS | MEASURES | GOALS | MEASURES |
| Technology capability | Manufacturing geometry versus competition | Technology leadership | Time to develop next generation |
| Manufacturing excellence | Cycle time, unit cost, yield | Manufacturing learning | Process time to maturity |
| Design productivity | Silicon efficiency, engineering efficiency | Product focus | Percentage of products that equal 80% of sales |
| New product introduction | Actual introduction schedule versus plan | Time to market | New product introduction versus competition |

Figure 3.6: ECI’s Balanced Business Scorecard (Kaplan & Norton, 2005)

4 The EFQM Excellence Model

Another instrument to apply corporate performance management in an organization is the EFQM Excellence Model. The characteristics of this model and how it functions will be further discussed in this section.

The EFQM Excellence Model was created and developed by the European Foundation for Quality Management as an answer to the American Total Quality Management (TQM). Its roots lay in the quality management world, where standardization and documentation are important.

The EFQM Excellence Model is a framework designed to assist companies in achieving business excellence through the continuous improvement of the management and deployment of processes (Andersen *et al.*, 2000). In essence, the EFQM Excellence Model is an instrument for self-assessment that addresses every aspect of the company, and is used to improve the functioning of organizations and realize 'excellent' results. This self-assessment process allows companies to distinguish their strengths and to indicate areas where improvement is necessary. The EFQM Excellence Model also enables the calculation of scores against nine criteria that can be used to compare with internal or external targets like similar organizations and competitors. The aim of the EFQM Excellence Model in this paper is, like the Balanced Scorecard, the measurement of performance in organizations.

In contrast with the Balanced Scorecard, which divides the organization into four areas, the EFQM Excellence Model, shown in Figure 4.1, consists of nine criteria, which are the following (www.efqm.org):

1. Leadership
2. Policy & strategy
3. People
4. Partnerships & resources
5. Processes
6. Customer results
7. People results
8. Society results
9. Key performance results

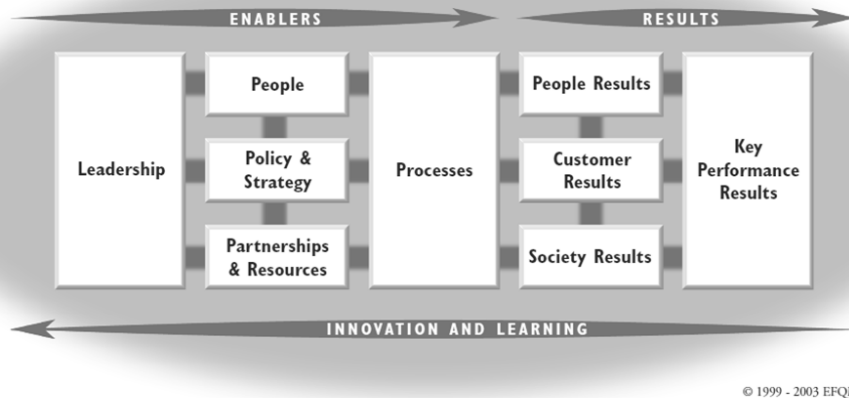


Figure 4.1: The EFQM excellence model (EFQM-brochure “Introducing Excellence”, 2003)

Five of these criteria are ‘enablers’ and four criteria are ‘results’. The enabler criteria cover what an organization does and how they do it. The result criteria cover what an organization achieves. A more detailed description of each criterion is given by Gardiner *et al.* (2003) and Lambrix (2008), as described below. As shown in Figure 4.1, there is a clear relationship between the enablers (cause) and the results. Efforts that are taken in leadership for example (or other input factors) will have a positive influence on the satisfaction of the various stakeholders and ultimately will contribute to the key performance results and business results in a positive way. The arrows indicate that the EFQM model has a dynamic nature. They show that learning and innovation will improve the enabler criteria, which in turn will lead to better results (Rusjan, 2005).

4.1 Enabler criteria

Leadership

The first criterion of the EFQM Excellence Model is leadership and is about the behavior of all the people inside the organization that have executive responsibilities, like for example managers, team leaders, etc. They need to be a moving and inspiring force behind the continual improvement of the organization. Furthermore the leader creates an environment in which employees can cooperate to achieve the proposed objectives. The leaders are also those who design and develop the organization’s vision and mission, with additional values and systems to aim for in the long term. It is important that the leaders

communicate this in the right way to their staff members, so they can think and cooperate in the same direction.

Sub-criteria:

- Leaders develop a mission, a vision and values, and fulfill an example function for a culture that aims for excellence.
- Leaders are personally involved to make sure the organization's management system is developed, implemented and continuously improved.
- Leaders are involved with customers, partners and representatives of society.
- Leaders motivate, support and acknowledge staff members.
- Leaders identify and lead change management.

Policy & strategy

The policy and strategy criterion concerns the vision and the strategy of the organization in a more concrete way, and how the company implements this vision and mission via continuous improvement and the concept of total quality. These represent the means and make sure that the organization keeps focusing on the right items to turn its vision into practice. The management of employees, resources, and activities and processes are all aimed at the organization's policy and strategy. Furthermore, this strategy is directed at the stakeholders and takes into account the market and sector in which the organization operates. This criterion examines whether the objectives of the organization are translated well into measures to determine, plan and use the necessary resources for the objectives' realization.

Sub-criteria:

- Policy and strategy are based on the present and future needs and expectations of the stakeholders.
- Policy and strategy are based on the information that is obtained by the measurement of performance and by the activities that deal with research, learning and creativity.
- Policy and strategy are developed, revised and actualized.
- Policy and strategy are communicated by a structure of key processes.

People

Inside any organization, no matter what type, people are still the most valuable and most important potential. The potential knowledge and skills inside the company needs to be utilized fully in order to improve its business process and to work in an optimal way on continual improvement as well as on individual, group and organizational level. With that organizations try to treat everyone equally and empowerment is stimulated among employees.

Sub-criteria:

- The staff policy is managed, planned and improved.
- Knowledge and competencies of employees are identified, developed and maintained.
- Employees are involved with the organization and have decision-making authority.
- Communication between employees and the organization.
- Employees are rewarded, acknowledged and taken care of.

Partnerships & resources

The fourth criterion refers to how the organization uses its resources (financial, materials, infrastructure, etc.) and how it utilizes its external partnerships in order to carry out effective business performance. While planning and managing their partnerships en resources, the management is looking for a balance between present and future needs of the organization, society and environment.

Sub-criteria:

- External partnerships are managed.
- Financial resources are managed.
- Buildings, installations and materials are managed.
- Technology is managed.
- Information and sources of information are managed.

Processes

Important within this model is a good definition, control and improvement of the processes. This criterion concerns how the organization designs, manages and improves

its internal and external processes in order to satisfy its shareholders, customers and other stakeholders. The processes having a direct influence on the customers' added value are extra important. By placing the processes centrally, activities can be organized in such a way that there will be no overlap and/or interface problems with other departments.

Sub-criteria:

- Processes are developed and managed systematically.
- Processes are where necessary, improved, by using innovation, until the entire satisfaction of customers and other stakeholders is reached.
- Products and services are designed and developed, based on the needs and expectations of customers.
- Products and services are manufactured, delivered and service is granted.
- Relations with customers are managed and strengthened.

4.2 Result criteria

Customer results

A policy that is customer-oriented should result in an increased customer satisfaction and loyalty. Excellent organizations measure and achieve excellent customer results, which should manifest itself in this first result criterion. The customer criterion measures if the customers are satisfied by the delivered customer value, if they are contented with the way this value is delivered, and what the organization does to attract and retain customers. The organization's leaders show their employees, with the necessary resources and personnel, how this customer orientation should be turned into practice.

Sub-criteria:

- Measurements of perception.
- Performance indicators.

People results

This seventh criterion concerning people results investigates what the company is achieving in relation to its employees, if the staff members are satisfied and what is done to keep them contented. An employee has a satisfied feeling when he thinks that he fits in his perception of the reality. They want to feel appreciation for the objectives they

reach. Through good listening to employees, a lot of information can be discovered and is important because employees who feel no appreciation could be looking for a different work environment or organization as a result.

Sub-criteria:

- Measurements of perception.
- Performance indicators.

Society results

Organizations also have an interaction with their immediate environment and with society in general. This criterion concerns what the organization does in return for the local, national and international society and if they are satisfying their expectations and needs. This is important because society provides for example for appropriate personnel and infrastructure. The operational processes of a company can also result in less pleasing side effects like for example noise nuisance and water or air pollution. Therefore society has more and more expectations of the organization and its social role, by which the company should contribute to a livable society. The influence of the public opinion grows and translates itself into action groups, organizations have to deal with. In this criterion society's expectations should be integrated in the organization's policy and should be spread throughout the whole company. This criterion's score is influenced by the extent at which the organization is capable of satisfying the needs and expectations of the local, national and international community.

Sub-criteria:

- Measurements of perception.
- Internal performance indicators.

Key performance results

This last result criterion is about the financial as well as the operational results: to what extent the company realizes its prescribed objectives, and satisfies the needs of its financial shareholders that are described in the second criterion. The results are the outcome of the approach and the extent at which that approach is developed and implemented in the organization.

Sub-criteria:

- End results.
- Key performance indicators.

Another, more important, difference compared with the Balanced Scorecard is that the EFQM Excellence Model is not linked to the organization's vision, strategy and objectives. Instead, the current performance of organizations is measured by the EFQM Excellence Model by evaluating the nine criteria, which are each divided in a set of sub-criteria, with a number of standard statements. To every answer to these statements a score is assigned. This scoring system is universal and treats all organisations and all types of organisations in the same way, and is designed to allow companies to benchmark themselves against internal or external targets, like already mentioned. Thus, the EFQM Excellence Model doesn't provide organizations with a ready-made performance management model, although it delivers a number of performance indicators of which companies can put together their own set of indicators that is most relevant to them.

To conclude, the EFQM Excellence Model is a non-prescriptive framework for performance excellence through continuous improvement based on nine criteria divided in enabler and result criteria. It is a model for self-assessment and can be used for performance measurement. However, the model is not linked to the strategy of the concerning organization, but provides a number of standard indicators for each criteria. This makes it possible for the organization to benchmark itself against other similar companies or competitors.

4.3 Case example

Cases with examples of the application of the EFQM Excellence Model are hardly available in the literature. An explanation for this can be that the EFQM Excellence Model is a standard model that can be used as a benchmarking instrument. Because the model's content is standardized and almost fixed, this means that every application of the model by any type of organization will result in a similar method of working. One reason why the Balanced Scorecard for example differs between organizations is because it is linked to the organization's strategy. However, the EFQM Excellence Model is not dependent on the strategy of a company and thus is nearly similar for most organizations.

5 CPM in healthcare

5.1 CPM in not-for-profit organizations

What has been discussed so far is for all organizations in general; for-profit, not-for-profit (or non-profit), and governmental organizations. However, corporate performance management is different for these types of organizations. This section is more in particular about not-for-profit organizations, which have other priorities and thus focus on other business areas when evaluating their functioning and trying to improve themselves.

Not-for-profit organizations are different from their counterparts in the private sector. The focus is not on maximizing profit, there is little potential for income generation, and there is no bottom-line against which performance ultimately can be measured. The vast majority of non-profit companies generates most of their income from the government, and has to account to several stakeholders (Boland & Fowler, 2000).

A non-profit organization (NPO) is an organization that has not the objective to make profit. Still it may be that those who make use of the services offered by these companies have to pay for these delivered services. However not-for-profit organizations have no pecuniary reward, they still need financial resources to survive and to keep functioning properly. These resources mostly come from donations, subsidies and own earnings. Important is that non-profit organizations that are subsidized by the government are checked for the delivered quality of their services. Not fulfilling the quality demands of the government can lead to discontinuing the subsidy for the non-profit organization, an issue that will be discussed more in detail below. This is a motive for not-for-profit organizations to apply quality management and performance measurement in order to deliver the requested quality and in that way to keep having the advantage of receiving subsidies. Other motives to improve the performance measurement of non-profit organizations are management decision-making and the external credibility of the company (Buhovac & Epstein, 2009).

Changes in the environment and society demands have caused an increase in the number of not-for-profit organizations over the last few years. Because of this growing importance in society nowadays, it is interesting to have a closer look at not-for-profit organizations, and more in particular for this thesis how performance measurement has been implemented in this type of organization.

Corporate performance management, in not-for-profit organizations, is not yet described in literature. Therefore this chapter will also focus on the use of the Balanced Scorecard and the EFQM Excellence Model in not-for-profit organizations. Before describing the working of these frameworks, performance measurement in non-profit organizations is described more in detail.

5.1.1 Performance measurement

Organizations in the private sector are focusing on management because they have to survive and have to be competitive. Not-for-profit organizations however have weaker survival pressure, less apparent competition and a greater difficulty in developing performance indexes than companies in the private sector. As a consequence, the evaluation of administrative and management processes is often neglected. Thus, for non-profit organizations, who promise to deliver a certain service, it is important to transform their mission and objectives into a performance index which enables them to maximize efficiency. This is recommended since Kaplan (2001) states that the success of not-for-profit companies should be measured by how effectively and how efficiently they meet the needs of their constituencies. Financial measures can play a constraining and enabling role, but will seldom be the primary objective of a non-profit organization. Not-for-profit organizations simply lack the existence of a performance measure like a financial measure, such as shareholder returns and profitability, used by for-profit organizations (Forbes, 1998). Therefore it is difficult for non-profit companies to develop surrogate quantitative measures of organizational performance, because they have frequently goals that are amorphous and offer intangible services. Herzlinger (1996) states that not-for-profit organizations should include non-financial quantitative measures of the quality and the quantity of the services provided, but he doesn't offer a guidance of how to select such measures. Deriving such performance measures for a non-profit organization is one of the main goals of this thesis and will be discussed in the case study. What is described next is how the Balanced Scorecard and the EFQM Excellence model are used in the non-profit sector.

5.1.2 Balanced Scorecard

Initially the Balanced Scorecard was developed to improve management of for-profit organizations, but soon companies in all trades and professions were successful in applying a Balanced Scorecard. However, there are two important differences between

the Balanced Scorecards applied in private companies and those applied in not-for-profit organizations. First, the vision, mission and objectives are more important in a non-profit company than in a private business. Second, the financial perspective is the top priority as profit is not the main goal of a not-for-profit organization (Cheng *et al.*, 2005). This means that the original architecture of the Balanced Scorecard, which places the financial perspective on top of the hierarchy, should be reordered for non-profit organizations, as shown in Figure 5.1. This adjusted sequence places the customer perspective at the top of the Balanced Scorecard.

In a private company, the customer both pays for the service and receives the service. In a not-for-profit organization however, donors provide the financial resources, while another group receives the service, the constituents. Now, which group is the customer? Rather than choosing, organizations can place both of them on top of their Balanced Scorecard. Then, objectives for the donors as well as the recipients are developed in order to determine the internal processes necessary to deliver the desired value propositions for both groups (Kaplan & Norton, 2001).

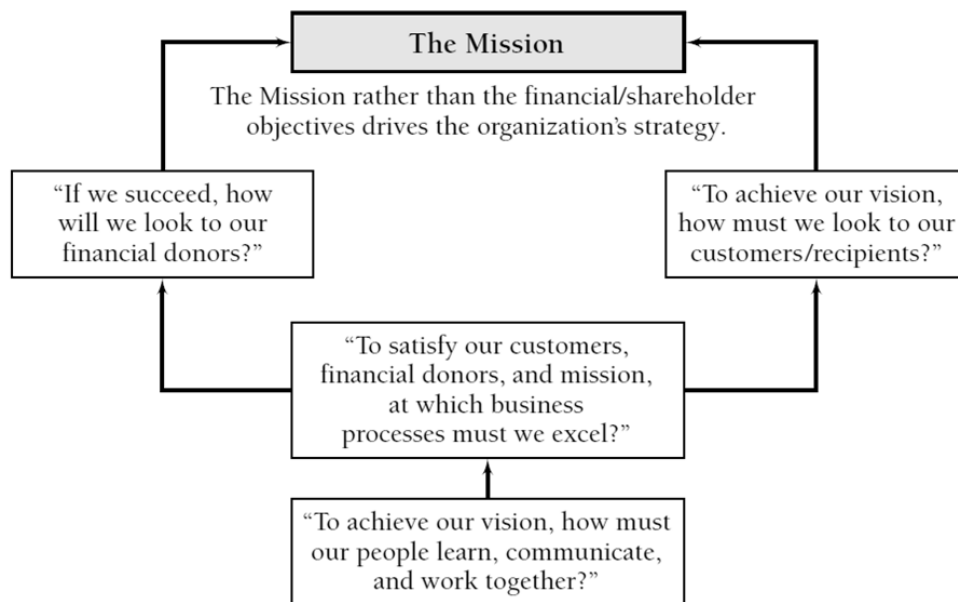


Figure 5.1: A Balanced Scorecard for a not-for-profit organization (Kaplan & Norton, 2001)

As shown in Figure 5.1, non-profit organizations could, and perhaps should, consider placing an overarching mission objective on top of their Balanced Scorecard. This

objective reflects what the company wants to achieve in the long term. Then, the objectives within the Balanced Scorecard can be oriented towards this mission objective (Kaplan, 2001). The starting point should be the client perspective, which should be used to develop the internal processes and learning and growth perspectives to maximize their customer value (Cheng *et al.*, 2005).

According to Niven (2002) managers and executives in a non-profit organization should pay more efforts to explain the background, process, context and effectiveness of the Balanced Scorecard than other organizations to guarantee that employees and volunteers understand and accept the Balanced Scorecard. This again indicates there is a difference when implementing a Balanced Scorecard in a not-for-profit organization.

As with the original Balanced Scorecard, strategy still plays an important role. According to Kaplan (2001) organizations in the non-profit sector have difficulties in clearly defining their strategy. Some not-for-profit organizations have "strategy" documents consisting of up to fifty pages, often being more a wish list from all participants who engage in the strategy-setting process. Often, they have the problem of channeling suggestions into a few important and coherent subjects. Therefore, it is important that such organizations understand that strategy is not only what an organization tends to do, but also what it decides not to do, something that is particularly relevant for companies in the non-profit sector (Porter, 1996). Non-profits, like companies in the private sector, have to focus their limited resources on a limited set of organizational objectives and constituents. Trying to be everything to everyone virtually guarantees organizational ineffectiveness (Kaplan, 2001).

The general way of thinking of the Balanced Scorecard, as presented in Figure 4.3, is the same for for-profit and not-for-profit organizations. The only differences are that the strategy is more difficult to define, the customer perspective is the priority instead of the financial perspective, and the vision and mission are even more important in a non-profit organization compared to a private business.

5.1.3 EFQM Excellence Model

Concerning the use of the EFQM Excellence Model in the not-for-profit sector, there is hardly literature available. There are no guidelines provided which show how and in which direction the framework should be adapted in order to be implemented and used in a non-profit company. It could be that for non-profit organizations the weights assigned

to the nine criteria of the EFQM Excellence Model will be different compared to a private company because other priorities are set. This way of thinking is not illogical when looking at the Balanced Scorecard, where a shift in importance of perspectives can be seen. It is also true that the accents in the strategy of non-profit-organization are different from profit organizations, but because the EFQM Excellence Model is a standard model and not linked to the company's strategy this will cause no differences compared to the original model. The only dissimilarity is that the benchmarking will occur against organizations from the non-profit sector. Thus, broadly speaking there will be no difference with profit organizations.

Because of the limited evidence of the use of the EFQM Excellence Model in non-profit organizations this will not be further examined here, but will be classified in the section about the use of the EFQM Excellence Model in the healthcare sector and the case study in the Mariaziekenhuis Noord-Limburg. The following chapter deals with corporate performance management and the working of the Balanced Scorecard in the healthcare sector.

5.2 CPM in healthcare

This thesis aims at creating an EFQM Excellence Model for an organization in the healthcare sector that is linked to the company's mission, objectives and strategy. After having discussed corporate performance management (systems) in the non-profit sector, now it is time to take a closer look at how the Balanced Scorecard and the EFQM Excellence Model are implemented and used in healthcare. As seen in the previous chapter CPM systems are different for non-profit organizations compared to private organizations. This chapter takes a closer look at how healthcare organizations, and more specifically hospitals, use performance measurement models and how these are somewhat adjusted to fit their needs.

As already mentioned, different priorities are set in non-profit companies compared to for-profit organizations. How hospitals deal with this difference in particular and how they fill in and deal with the various perspectives will be discussed in this chapter.

5.2.1 Balanced Scorecard

How healthcare organizations, hospitals in this case, can apply a Balanced Scorecard in their company will be shown in this part with a real life example of the Duke Children's Hospital (DCH), presented by Kaplan & Norton (2001).

Before continuing with this real life example, a few adaptations of the Balanced Scorecard to a healthcare organization will be discussed. As with any product or service, the BSC can be expected to go through a product life cycle: introduction, growth, maturity and decline. According to Matthias *et al.* (2003), the use of the Balanced Scorecard in healthcare is in its growth phase. Healthcare organizations have faced the same implementation problems as organizations in other sectors, but they also had to deal with some unique challenges in the adaptation of the Balanced Scorecard to healthcare settings. An example is that medical staff relations and the quality of care are important aspects of performance in hospitals, but are difficult to measure, interpret and compare to other organizations. In general, most authors state that using a Balanced Scorecard can be beneficiary for healthcare organizations, although some modifications need to be made to reflect the industry and organizational realities. Chow *et al.* (1998) concluded that healthcare organizations should engage in the full range of strategic management activities, from defining its vision, strategy and objectives to the selection of goals, in order to develop its own unique scorecard and to assist progress towards these selected objectives. According to Griffith (2000), the approach of the Balanced Scorecard will allow healthcare organizations to track performance on several dimensions and lead to establishing integrated targets and goals. However, the unique characteristics of healthcare organizations make that some key modifications should be made to account for those unique characteristics. For example, the financial perspective is 'how should we appear to our stakeholders in order to financially succeed?', while in healthcare this question must be revised to 'What financial condition must we achieve to allow us to accomplish our mission?' (Blazer *et al.*, 1999). Curtwright *et al.* (2000) recommend that internal stakeholders should identify and develop metrics to measure performance in all key categories in order to link the organization's mission, strategy and objectives to the daily operations through these metrics. In summary, most authors have concluded that using a Balanced Scorecard is relevant in healthcare, but some modifications need to be made in order to reflect unique organizational characteristics.

Kaplan and Norton (2005) originally proposed four perspectives in the Balanced Scorecard, but recognized that it could and should be modified to fit the organization's

strategy. A number of organizations in the healthcare sector have found it useful to make adaptations to the original structure and content of Kaplan & Norton's Balanced Scorecard. Ison *et al.* (1999) for example reported the addition of the perspectives of 'human resources', 'development and community focus' and 'quality of care and services' in a long-term care organization. Curtwright *et al.* (2000) described how a clinic adopted among other things the perspectives 'social commitment' and 'patient characteristics', and Santiago (1999) cited the example of Carondelet Health Network which added the perspective 'outcomes'.

Actually, the whole method of working of the Balanced Scorecard remains the same as discussed previously and as shown in Figure 3.3. However, in addition to adding or modifying perspectives, some organizations adapt the structure of the Balanced Scorecard in order to emphasize the importance of certain aspects. The Duke Children's Hospital for example places the customer and financial perspective, together with an overarching mission, on top, as shown in the case below. Furthermore several authors have stated that there is a critical need for valid, comprehensive and timely information as input to the Balanced Scorecard. Although this is true for every type of organization, it is worth mentioning here because healthcare organizations often have poor data warehousing resulting in difficulties to obtain the desired information (Matthias *et al.*, 2003).

5.2.1.1 Case example

The Duke Children's Hospital is an academic children's hospital within the Duke University Health System in Durham, North Carolina. The identification of the following platform issues were the start of launching a Balanced Scorecard project in DCH:

- The organization was confused about which services were the most important to provide.
- The administration, staff and physicians had no shared purpose.
- The communication and coordination between pediatricians was poor.
- The organization's market position was threatened.
- The organization had great difficulties in finding a balance between quality care, patient satisfaction, staff satisfaction and education, and between research and its financial objectives.

These issues caused the need for developing a Balanced Scorecard for DCH, that started the process with the creation of a mission and vision statements. The strategy they were planning to use hypothesized that better care and communication should lead to an increase in revenues and referrals, as well as a reduction in costs and length of stay to restore the organization's financial viability. A multidisciplinary team reviewed the mission, vision and strategy, started with the development of a Balanced Scorecard for the strategy, and eventually reached consensus on their first scorecard, shown in Figure 5.2. An objective was to involve the employees in the change process and to improve children's care. After the Balanced Scorecard had been communicated throughout the organization and accepted, the hard work could begin: how to make this all happen. Because of the involvement of the employees many ideas were generated concerning patient satisfaction and were evaluated using a two-dimensional grid to screen the initiatives: the potential impact on customer satisfaction and effort involved (time and money). Finally, only those initiatives with a high impact and a low cost were discussed further. Furthermore, a whole new range of processes were implemented and physicians received their monthly cost per case statistics and patient and referring physician satisfaction scores, benchmarked against the total physician population. With this they could now compare themselves against their colleagues and search for ways to improve themselves (Kaplan & Norton, 2001).

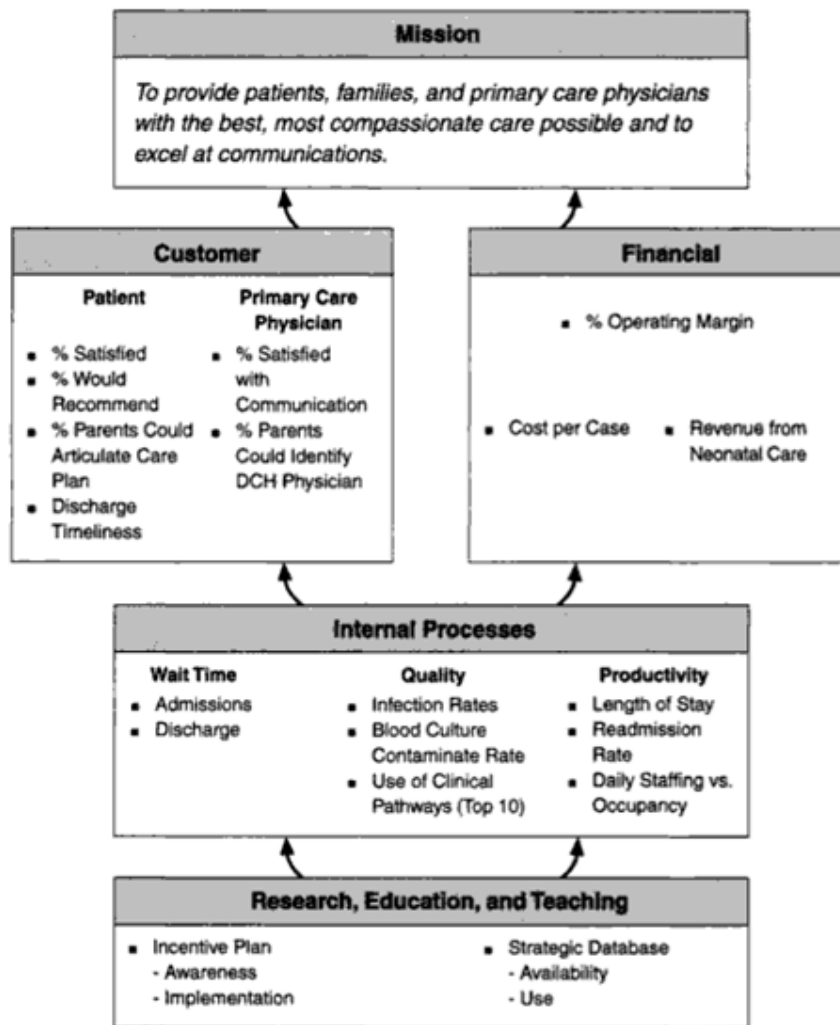


Figure 5.2: Duke Children's Hospital Balanced Scorecard (Kaplan & Norton, 2001)

5.2.2 EFQM Excellence Model

The purpose of this thesis is to examine how the EFQM Excellence Model can be used in a healthcare organization. More specific it is the intention to link the indicators in the measurement model to the organization's vision, strategy and objectives. In this way it can be verified whether these predetermined vision, strategy and objectives are carried out as stated. Similar to not-for-profit organizations, the application of the EFQM Excellence Model in healthcare organizations will almost be the same as in regular business. A shift in weights that are ascribed to certain criteria could be a logic difference. Also the fact that the EFQM Excellence Model is a standard model and is not

linked to the organization's vision, strategy and objectives, makes that the original model should hardly be adapted in order to fit healthcare organizations.

Because very little literature is available about this topic, the Mariaziekenhuis Noord-Limburg will be used to investigate the why and how of performance measurement and management in a healthcare organization.

It is remarkable that, regarding non-profit and in particular healthcare organizations, little literature is available about corporate performance management and the use of CPM systems. However, during the last years the role of service organizations in society has become of greater importance. Therefore, the MZNL case study hopefully will provide more insight into this matter.

5.3 Regulations concerning CPM in Belgian hospitals

An important aspect in the whole story of performance measurement in hospitals is the role of the government and its regulations, laws and decrees concerning quality of care. For this matter a distinction is made for the quality of care between federal and Flemish regulations, which are both discussed into detail in this section.

5.3.1 Federal regulations

The federal government (FOD) has the intention to realize the 'Multi-annual Plan 2007-2012' in collaboration with Belgian hospitals. This plan has the purpose to improve quality management and patient safety among hospitals. The FOD tries to achieve this by concluding contracts, with a term of 18 months, concerning the coordination of quality and patient safety with these hospitals. Though, these contracts are not obligatory. Hospitals can participate in order to receive a budget, based on quality grounds or to evolve along. To take into account the specific characteristics of every type of hospital, different contracts are formulated per type of institution. By signing the contract hospitals commit themselves, in return for the financing of the coordination of quality and patient safety, to the development and execution of the three pillars. The first one concerns the development and implementation of a safety management system, the second deals with the analysis and (re)development of an existing or new process, and the third is about the development and/or adaptation and/or implementation and monitoring of a multidimensional set of indicators related to quality and patient safety.

Furthermore, for the execution of the 'contract coordination quality and patient safety' the department Quality and Patient Safety of the FOD National Health offers concrete support to the hospitals by providing workshops and external training. Concerning the workshops, the FOD will, on a regular basis, organize info sessions, work groups and workshops. The content of these workshops and related activities is highly connected with the three pillars of the contract. On point of external training, the FOD wants to inform the hospitals about existing courses of other organizations and training centres. Here the existing courses are also structured in accordance with the three pillars of the contract.

Because the purpose of this thesis is to develop a performance measurement model, the contract's third pillar, concerning the development and/or adaptation and/or implementation and observation of a multidimensional set of indicators with relation to quality and patient safety, is the most important in this research. The added value for hospitals of this third pillar is that they are stimulated to invest progressively in the development and/or adaptation and/or implementation and observation of indicators for the direction of the policy concerning quality and patient safety.

In the third pillar, the hospital commits itself to gradually develop, adapt (if necessary), implement and monitor a multidimensional set of indicators to direct the policy concerning quality and patient safety, and is approached in two ways.

The first approach is the evaluation of the multidimensional set of indicators including the hospital's indicators. To evaluate its own indicators, the hospitals receive from the FOD the cartography, a summary in which the hospitals' indicators are classified in four dimensions: clinical performance, economical, financial and IT performance, patient safety and orientation, and personnel and team orientation. This overview intends to provide feedback for the hospitals and can be used as an instrument to generate a general view of the indicators used for the direction of the policy concerning quality and patient safety. It also allows verifying whether there is a balance between the different domains about the number and kind of indicators.

The second approach is concerning the analysis of each indicator from the national set of indicators, put together from the common indicators of all participating Belgian hospitals. For this overview of 'general' indicators hospitals need to describe seven elements or questions per indicator concerning the indicator's usage, description, relation to concrete objectives, relevance, improvement actions, responsible person(s) and users.

Important in the contract is that it states that a good multidimensional set of indicators concerning quality and patient safety is derived from a clear vision, strategy and critical success factors (CSF's). Of course it can be said that indicators from other organizational areas should be derived as well from the organization's vision, strategy and CSF's. In addition the contract also indicates that there always should be a clear relation between an indicator and a strategic/operational objective.

The contract also states that the involvement of all committees and the medical superintendent is essential to guarantee a successful execution of the contract. Also important is regular and adequate communication at the appropriate time between all parties involved. The FOD also requires that hospitals, for the third pillar, take notice of the seven above-mentioned elements and define a few aspects concerning quality and patient safety. These state that hospitals need to have an institutional organ preoccupied with monitoring the indicators, keep an inventory of all indicators that are used de facto and keep an inventory of all methods used to select and monitor the indicators.

According to the FOD the above-mentioned is a necessary and essential intermediate stage to come to a multidimensional set of indicators in 2012, as stated in the Multi-annual Plan. Hospitals can cooperate in this by concluding the 'contract coordination quality and patient safety', and in return receive a budget to work on this issue.

5.3.2 Flemish regulations

The Flemish government however, enforces their regulations concerning quality in hospitals via the 'Decree concerning the quality of the healthcare and welfare services' of 17 October 2003 and the 'Implementation Decree of the Flemish government complying with the execution of the decree of 17 October 2003 concerning the quality of the healthcare and welfare services in the general, categorical and university hospitals' of 14 May 2004. In contrast with the above-mentioned federal regulations this Flemish decree and implementation decree are obligatory.

5.3.2.1 Decree concerning the quality of the healthcare and welfare services of 17 October 2003

This decree enforces that hospitals need to make effort concerning quality management. Quality management is that part of the management function that is qualifying for the determination and execution of the quality policy. For the execution of this quality policy

a quality management system and self-assessment is necessary. The quality policy is supported by the participation of all staff members and strives for benefits for the users, employees, the hospital and society.

The quality management system is necessary for the determination and elaboration of the quality policy and the quality objectives in order to subsequently realize these objectives. The system needs to consist of the organizational structure, qualifications, responsibilities, procedures and processes.

The self-assessment is a systematic evaluation of the processes, structures and results of the hospital en is realized by the hospital itself. The hospital shows by means of a self-assessment how it monitors, manages and continually improves its processes, structures and results. In this self-assessment the hospital needs to demonstrate minimal:

1. How it collects and registers data on the quality of care services in a systematic way
2. How it applies the data, intended in 1, to formulate quality objectives
3. which step-by-step plan with trajectory it formulates to realize the objectives, intended in 2
4. How and how frequently it evaluates whether the objectives are realized
5. Which steps it takes when an objective is not realized

The policy of quality, the quality management system and the self-assessment need to be described in a quality handbook, and need to be validated by the hospital's top direction.

The Flemish government organises the supervision of the compliance with the conditions of this decree, by which the hospitals need to place all data at the Flemish government's disposal. Authorized representatives of the Flemish government evaluate the quality of the care services and quality management on the spot. Each evaluation report needs to be announced in an active way to the board, the employees and the hospital's users.

5.3.2.2 Implementation Decree of the Flemish government complying with the execution of the 'decree of 17 October 2003 concerning the quality of the healthcare and welfare services in the general, categorical and university hospitals' of 14 May 2004

According to this implementation decree the self-assessment described in the decree and performed by the hospital needs to contain minimal a periodic evaluation of the clinical performance, the hospital's operational performance, the users and the employees.

Each of these evaluations needs to be performed by passing through all the five steps described in the decree, in each case for a period of maximal five years. Every hospital needs to select at least one domain inside the clinical care services to work out improvement actions. When selecting indicators it is preferable that the hospital makes use of the set of clinical performance indicators provided by the minister.

The supervision of the compliance with the conditions of the decree will take place at least five times a year. The result of the evaluation reports and on the spot visits contains remarks and recommendations for the hospital, which it can use to improve itself by carrying out improvement actions.

5.4 Indicator systems used by Belgian hospitals

With these governmental regulations in mind, several indicator systems and indicators can be applied by hospitals concerning performance measurement. The indicator systems discussed successively in this section are: Navigator, Netwerk Klinische Paden, Delta and Kwadrant, which are all developed by the Centrum voor Ziekenhuis- en Verplegingswetenschap, KULeuven (www.czv.kuleuven.be).

5.4.1 Navigator

Navigator (www.navigator.czv.be) is an indicator system consisting of clinical indicators, resulted from the decree concerning the quality of the healthcare and welfare services of 17 October 2003, for the control and improvement of the quality of care services. The system is suitable for general hospitals as well as for psychiatric hospitals, sanatoria and homes. Each set of indicators is composed in accordance with a structure of domains, subdomains and indicators. Hospitals themselves can choose a set of indicators that fit in with the hospital's priorities. The feedback the hospital receives from these indicators

maps the organization's quality in a useful way and informs about the organization's evolution and its position compared to other organizations.

The set of indicators of Navigator consists of the following fifteen domains:

- Hospital mortality
- Bedsore (decubitus)
- Fall incidents
- Imitation of freedom of movement caused by fixation
- Unplanned re-admission in the hospital
- Unexpected modification process of care services
- Care services for obstetric patients and newly-born children
- Care services for patients in the emergency department
- Care services for patients in day care
- Tromboembolic entanglements
- Infections
- Transfusion reactions
- Use and distribution of medicines
- Antibiotics
- Patient safety

From these indicators hospitals themselves can choose those which match with the organization's priorities. This is a dynamical set of indicators, meaning that it will be refined and completed for and with hospitals.

Navigator can be used by hospitals to benchmark itself against other hospitals, or against an average value of all, or a selection of hospitals. However, it is difficult for hospitals to benchmark for a few reasons. To benchmark, at least five other organizations should be available to benchmark against. Belgium is a small country, which makes it less likely that there are hospitals that use Navigator. Another important difficulty is that hospitals themselves can choose which indicators they want to use in their performance measurement. Then, in order to benchmark, it is necessary that other hospitals also select the same indicators, which again is less likely. Thus, the combination of these two issues makes that benchmarking for hospitals using Navigator should be put into perspective.

5.4.2 Netwerk Klinische Paden

Netwerk Klinische Paden (NKP) (www.nkp.be), developed by the Centrum voor Ziekenhuis- en Verplegingswetenschap, K.U.Leuven, is a methodology to plan and organize complex processes in an appropriate way.

NKP defines a clinical path as: "A clinical path is a collection of methods and means to gear the members of the multidisciplinary and professional teams to each other and to make task agreements for a specific population of patients. It is a realization of a care program for the purpose of guaranteeing qualitative and efficient care services. It is a means to plan and monitor a patient oriented program in a systematic way (Sermeus *et al.*, 2002; Vanhaecht *et al.*, 2002).

To manage complex processes NKP uses the methodology of plan-do-check-act, as can be seen in Figure 5.3, and a step-by-step plan consisting of thirty steps.

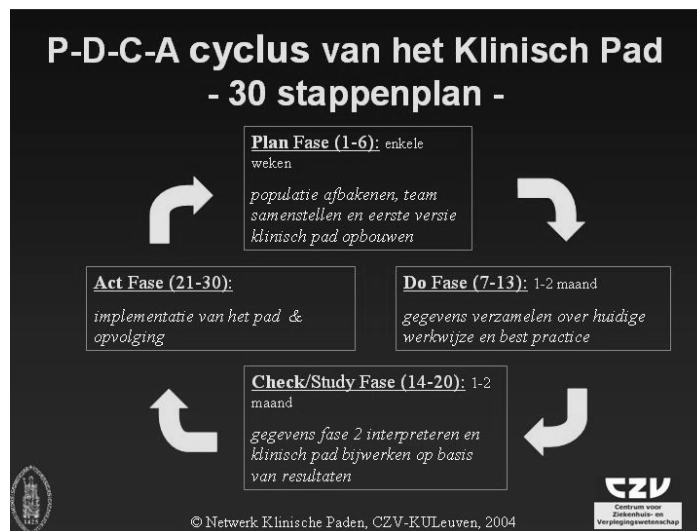


Figure 5.3: Duke P-D-C-A cycle of NKP (Netwerk Klinische Paden, CZV-K.U.Leuven, 2004)

Because evaluating and monitoring clinical paths is necessary, the research team developed the Leuvens Klinisch Pad Kompas (LKPK) (Figure 5.4), which is based on the Balanced Scorecard. This LKPK splits indicators, parameters and variables, which can monitor the quality and/or efficiency of a care process, into five domains:

- Clinical domain: e.g. infection degree, pain, re-admission, ...
- Service domain: e.g. patient satisfaction, patient expectations, ...

- Team domain: e.g. team efficiency, employee satisfaction, ...
- Process domain: e.g. analysis of deviation, waiting periods, lead times, ...
- Financial domain: e.g. revenue, costs, duration of hospitalization, ...

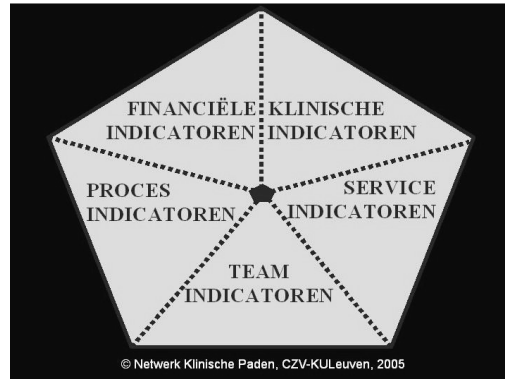


Figure 5.4: Levens Klinisch Pad Kompas (Netwerk Klinische Paden, CZV-K.U.Leuven, 2005)

The thirty step-by-step plan is an instruction booklet for teams that want to set up and monitor a clinical path in a systematic way. The step-by-step plan is not a standing order but an aid. Recent projects have shown that the thirty step-by-step plan is the "key to success" to achieve positive results (Sermeus & Vanhaecht, 2002).

5.4.3 Delta

MZNL also uses Delta (www.delta.czv.be), which is a measurement system developed by the Centrum voor Ziekenhuis- en Verplegingswetenschap, K.U.Leuven, that can be applied to map out the experiences of the patients, residents and employees and offers useful information about internal and external customers for a customer-oriented management. Important is that Delta, like the other systems, gives a concrete response to the quality decree of 17 October 2003.

Besides, Delta offers inquiries of the experience of patients in general and psychiatric hospitals and residents of care centers and homes. This experience's measurement offers more valuable information than the traditional measurement of satisfaction. In addition statistics-based information is offered to the management, which can be used for improving and monitoring processes. Furthermore, information is provided that is useful on departmental and organizational level, bottlenecks and evolutions in the own organization are pointed out, and comparisons with other organizations can be made.

Furthermore, Delta can be useful for hospitals because it places the customer centrally and improves communication inside the hospital as well as between the hospital and its customers. In addition Delta can be integrated in Kwadrant, which will be discussed below. Delta relies on advanced information technology, and like the previous systems, also is developed in cooperation with the participating hospitals.

Delta is a measurement system for the control and improvement of customer-oriented healthcare services. The system consists of a dynamic set of criteria/statements to make the experience of customers and the meaning they ascribe to their experience measurable and visible. Delta is tuned to the structure, processes and results of healthcare services, and consists of four measurement systems for residents of care centers and homes, patients in general hospitals, patients in psychiatric hospitals, and employees of healthcare organizations. Depending on the type of healthcare service, other scales are used to evaluate the satisfaction of patients as shown below, but for employees these scales remain the same. These scales need to be evaluated on experience and importance.

Scales of patients of general and psychiatric hospitals:

- General information
- Care service related information
- Care service
- Organization of care service
- Respect
- Accommodation
- Meals
- General

Scales of patients of psychiatric hospitals:

- Participation
- Support

Scales of employees:

- Leadership
- Appreciation
- Task agreements
- Commitment/atmosphere

- Collaboration
- Environment
- Information
- Personal development
- General

Scales of residents:

- General information
- Information concerning care
- Care/support
- Arrangement of care/support
- Respect
- Participation
- Accommodation
- Meals
- Service
- Atmosphere/relationships
- General

Furthermore, Delta can be used to support the systematic import, processing and use of data, which makes it possible to set up a database to make:

- *Internal comparisons:*
 - Between departments
 - Between departments and the organization
 - Between periods of time
- *External comparisons:*
 - Between similar healthcare organizations
 - Through healthcare organizations
 - By positioning and benchmarking
 - Between periods of time

A disadvantage of using Delta is that the set of indicators consists of a standardized list of statements. The users have the possibility to remove statements from the list, but adding new statements is impossible, which makes that certain aspects cannot be measured by using Delta. Thus, hospitals are in a certain way tied to the indicators

offered by Delta and do not have the possibility to create a statement list adapted specific to their organization. However, an advantage is that the data can be used to benchmark against other organizations, because in a broad way all the users collect data about the same aspects.

5.4.4 Kwadrant

Kwadrant (www.czv.kuleuven.be) is also a management model developed by the Ziekenhuis- en Verplegingswetenschap, K.U.Leuven, and is explicitly geared to healthcare organizations. This model can be of importance because it is based on the EFQM Excellence Model, shown in Figure 4.1.

The self-assessment is the collective and own evaluation of an organization or a part of the organization based on Kwadrant's nine areas for attention. To use Kwadrant as self-assessment, three instruments were developed. The first, a self-assessment report offers the most in-depth approach and consists of a thorough analysis by which the organization maps how it fills in the nine domains and how it performs in each domain. Secondly, the Kwadrant Kompas offers a reliable but simpler self-assessment. With respect to the content Kompas consists of a balanced selection of the nine domains of the management model, and uses a more simple scoring methodology. Thirdly, Kwadrant Kompas + is an instrument that connects the content of Kwadrant Kompas with the scoring categories of the self-assessment report, through which its concerning content is positioned between Kwadrant Kompas and the self-assessment report.

Kwadrant's self-assessment is based on an input model which starts with fundamental options, like expressed in the organization's vision, strategy and critical success factors (CSF's). Next it continues with result and enabler criteria and ends with improvement actions.

Kwadrant is explicitly geared to excellence of care services and the purpose is self-assessment as well as directing and improving. Using Kwadrant to direct and improve is based on reliable information and is tuned on the short, medium and/or long term. In view of directing and improving a directing model is developed in addition to the input model, which starts with improvement actions, continues with enabler and result criteria and ends with fundamental options. Kwadrant's input and directing model both are cyclical models and are based on the PDCA cycle.

5.4.5 The four measurement systems in the EFQM Excellence Model

To conclude, Kwadrant is a management model explicitly geared to healthcare organizations. The model is highly customer oriented, flexible, emphasizes performance, and pursues excellence. Besides self-assessment it provides a basis for directing the organization and continuous improvement from system perspective. Again, the data resulting from Kwadrant are used by the department responsible for the concerning domain. However, it strikes that Kwadrant provides an organization-wide solution using all nine domains, while the previous models only provide a solution for a part of the organization's performance.

The following chapter deals with the case study at the Mariaziekenhuis Noord-Limburg (MZNL). In this chapter the existing performance management and measurement in MZNL will be discussed in detail and also the development of an organization-wide performance measurement model based on the structure of the EFQM Excellence Model will be explained and shown.

6 Case study: Mariaziekenhuis Noord-Limburg (MZNL)

6.1 Introduction

The Mariaziekenhuis Noord-Limburg is a hospital situated in Overpelt (Limburg, Belgium), and offers acute regional care and cure. The hospital has a capacity of 348 beds, which yearly results in 13.000 patients in classical hospitalisation, 14.000 patients in day treatment, and 155.000 consultations. They employ nearly 90 doctors and about 800 staff members and aspire after the following vision, mission and strategic objectives.

Vision

MZNL wants to be a highly valued hospital inside its region because of its patient-oriented functioning.

Mission

MZNL offers qualitatively sublime healthcare in a respectful collaboration with all its partners.

Strategic objectives

- MZNL wants to be the first choice for the population in its region and for all its partners in healthcare.
- MZNL wants to obtain and preserve a positive image by striving for maximal patient satisfaction and sublimely professional quality of care, with attention for modernization in the field of professionalism as well as the specialization offered.
- MZNL will, through good communication, a multidisciplinary approach and motivating leadership, create working conditions that lead to satisfied employees.
- MZNL will use available resources in an efficient and effective way in function of its core business.

6.2 Performance measurement in MZNL

With the governmental regulations concerning performance measurement in mind, MZNL has the opportunity to join in one or more performance measurement models described in chapter 5. The only model MZNL doesn't participate in is Kwadrant. However as a

result of new developments in Kwadrant that may involve some interesting opportunities MZNL has recently determined to review and evaluate the current state of affairs of Kwadrant. Thus, MZNL participates in Navigator, Delta and Netwerk Klinische Paden, and not (yet) in Kwadrant, by which only a few areas of the EFQM Excellence Model are monitored. Therefore, MZNL has no enterprise-wide performance measurement model. Instead, the hospital has limited its use of performance indicators to three major departmental areas, which are care, financial economical performance and staff performance (HRM). In the area of care MZNL makes use of Navigator, Netwerk Klinische Paden and Delta. Concerning the financial economical performance a monthly summarized financial report and some government regulated indicators are monitored. In the area of staff performance MZNL uses Delta, a monthly evaluation of the staff occupancy rate and a yearly report on staff and organization. These three performance domains and the indicators used by MZNL in each domain will be discussed further into detail in this section.

6.2.1 Care indicators

With the governmental regulations at the back of the hospital's mind, several indicator systems and indicators can be applied by hospitals. Concerning the performance measurement of care, MZNL makes use of indicators from three performance measurement models: Navigator, Netwerk Klinische Paden and Delta. The indicators from these instruments which are applied by MZNL will be clarified further in this section.

Some of these indicators are clinical indicators, while others are indicators concerning patient satisfaction. The clinical indicators MZNL uses come from the indicator systems Navigator and Netwerk Klinische Paden, while the patient satisfaction is measured by applying Delta.

6.2.1.1 Navigator

According to the federal and Flemish regulations MZNL needs to gather data about a number of indicators. They choose these indicators that best fit their needs concerning care, which are also described in the organization's policy plan. The data resulting from Navigator per domain are used by those responsible for and active in the hospital's department accountable for the concerning domain. By using Navigator MZNL tries to meet the conditions imposed by the federal and Flemish regulations discussed above.

The indicators from Navigator are, as already mentioned, divided into fifteen domains. Furthermore, each domain is once more divided into a number of subdomains, each containing a number of clinical indicators. The domains and *subdomains* of Navigator that are applied by MZNL are shown below and a more detailed overview can be found in Appendix 1.

- Hospital mortality
 - *Total hospital mortality*
 - *Hospital mortality according to mortality risk*
- Decubitus (bedsore)
 - *Prevalence of decubitus*
 - *Prevalence of decubitus developed during hospitalization*
- Fall incidents
 - *Fall incidents*
 - *Fall incidents resulting in injuries*
 - *Fall incidents according to time of occurrence*
- Care services for patients in the emergency department
 - *Circulation in the emergency department*
- Care services for patients in day care
 - *Unplanned hospitalization after day treatment*
 - *Cancellation of a planned day treatment on the concerning day*
 - *Waiting period between the registration and the start of the surgical operation's preparation in the surgical day hospital*
 - *Waiting period between the registration and the departure to the surgery quarters in the surgical day hospital*
 - *Waiting period between the start of the surgical operation's preparation and the departure to the surgery quarters in the surgical day hospital*
- Infections
 - *MRSA*
 - *Hand hygiene*

6.2.1.2 Netwerk Klinische Paden

The use of indicators from Netwerk Klinische Paden is in MZNL only recently adopted and has actually just passed the start up phase. At the moment the state of affairs in the area of clinical paths in MZNL is as follows. In 2008 a clinical path for knee prosthesis is

developed and implemented, followed by the development and implementation of a clinical path for varicotomy in 2009. This year, in 2010, a clinical path for children suffering from obesity is developed and implemented, and also clinical paths for gastric bypass and arthroscopy are developed but not yet implemented. In addition a clinical path for COPD (Chronic Obstructive Pulmonary Disease) is developed in collaboration with Netwerk Klinische Paden. For the moment also a clinical path for hip prosthesis is in development and, by way of example, consists of the following indicators:

1. The information brochure is received and read by the patient
2. Complications are observed by variance reporting
3. Patient satisfaction is increased after the implementation of the clinical path
4. Team effectiveness is increased after the implementation of the clinical path
5. The care process is standardized
6. The examinations preceding the operation are executed before the hospitalization
7. The length of stay is geared to the national average

The selection of indicators is connected with the clinical paths that are developed in-house. Since clinical paths have the purpose of streamlining and standardization of the total care and recovery process, this means that a dozen of paths can be developed. Mostly the selected indicators are controlled within the framework of the evaluation of quality of the clinical path, without a systematical monitoring on corporate level.

Here also the data resulting from NKP per domain are used by those responsible for and active in the hospital's department accountable for the concerning domain. By using NKP, in combination with Navigator, MZNL tries to meet the conditions imposed by the federal and Flemish regulations discussed above, and to work continually in the area of care.

6.2.1.3 Delta

The evaluation of the patients' experience in MZNL occurs every two year by using Delta's measurement instrument, which measures performance in the following areas of patient satisfaction:

- General information
- Care service related information
- Care service

- Organization of care service
- Respect
- Accommodation
- Meals
- General

To measure performance in these areas a number of statements, shown in Appendix 2, need to be evaluated on experience and importance by the patients.

Here also the data resulting from Delta are used by those responsible for and active in the hospital's department accountable for the concerning domain. By using Delta, in combination with Navigator and NPK, MZNL tries to meet the conditions imposed by the federal and Flemish regulations discussed above, and to work continuously on their quality of care.

6.2.2 Financial economical performance indicators

Financial indicators in MZNL used to be observed and discussed only three times a year and staff matters once a month. Since a few years they came to the conclusion that the financial data was spread throughout the whole organization, and there was no clear overview of financial indicators. This conclusion gave rise to the development of a one page overview of the most important and relevant financial economical indicators, which is discussed after the indicators that are imposed by the federal government.

6.2.2.1 Government regulated financial indicators

The federal contract concerning the realization of the 'Multi-annual Plan 2007-2012' above-mentioned also states that hospitals need to report on three self-chosen financial indicators. For MZNL these financial indicators are:

- Cash flow level
- Duration of hospitalization
- Financial coverage = $\frac{\text{cash flow}}{\text{long-term debt} < 1 \text{ year}}$

However, the information resulting from these indicators and received from the government is not used in the policy by MZNL's financial department. In addition to these

indicators MZNL developed its own report including financial and economical indicators, which are discussed below.

6.2.2.2 Monthly summarized financial report

Driven by the need of a simple one page financial economical overview, MZNL started observing how other hospitals dealt with the issue of working with and presenting financial economical indicators. In addition they listed all MZNL's possible financial and economical indicators to come to an overview of the possibilities. The next step was to make a selection of these indicators relevant for MZNL's policy. In combination with the experience they gained in other hospitals and in collaboration with the management, they came up with a set of indicators which is a summary of the selection above-mentioned. These indicators are based on the whole financial department and not on a part of it, with the purpose to come up with indicators which are relevant for the financial department as a whole.

The summary of these indicators is presented in the so-called 'monthly summarized financial report' (Appendix 3), which contains three categories: activities, budget and staff matters. The activities' indicators deal with aspects like the number of registrations, patients and consultations, as well as the number of invoiced forfaits. A forfait is an amount of money, determined by the government, a hospital receives for a certain treatment of a patient. The indicators concerning the budget are for instance revenue pharmacy and forfaits, but also supplies and deliveries, remuneration and National Insurance contributions, and a monitoring of the investments. The category staff matters provides information about the number of full-time equivalents (FTE). The monthly summarized financial report is used as a financial economical policy framework, and consequently includes no clinical indicators. A more extended overview of the indicators is described in Appendix 3.

For all indicators the numbers and amounts of the past and current year are shown, as well as a target number for each. In this way targets that are not achieved can easily and simply be detected. Another important aspect is that not all of the indicators have the same time span, which also is indicated in the overview in order to make correct comparisons. In addition to this numerical data the monthly summarized financial report contains a few graphs and histograms about the monthly forfaits, occupancy rate, patient days, and origin of the patients. This provides the report's users with a simple and quick view of a number of important aspects.

Important and remarkable is that this financial report is dynamic rather than static. This means that the content is not laid down. The report's responsible persons make suggestions about which indicators to include in the report and then consult with the management on the composition. Also MZNL's financial commission, like the management, makes propositions and recommendations about the report's content. However a large number of these indicators are fixed, there are a few indicators which are included according to priority.

The indicators used in the report are, as already mentioned, a summary of a larger set of indicators and are based on the financial group as a whole. When an indicator indicates that a certain aspect performs not as expected and deviates from the predetermined target, the underlying causes will be investigated more thoroughly in order to improve and restore the aspect's functioning. Another important aspect is that the data in the monthly summarized financial report are objective, in contrast with the subjective nature of previous measurements. In the past, measurements concerning patient numbers were recorded by tallying, while nowadays those data are determined by accounting data like invoices which provide evidence that is beyond debate.

Furthermore, the indicators that are applied by MZNL are linked to the organization's vision, strategy and objectives through the hospital's policy plan. The invoice term, for instance, is included in the monthly report and is determined in the policy plan. The financial ratios in the policy plan are directed by the report's budget indicators, which are also derived from the vision of the administrative and financial department. Taken into account the financial economical orientation and the fact that the indicators represent the financial department as a whole, those indicators are included which are critical for the execution of the hospital's policy plan.

In mid-2008 the framework of the monthly summarized financial report was finished and since then it has been applied by the financial department in MZNL. The report is monthly discussed with and transferred to the members of the board. However, the report has only been accepted by the hospital and presented at the board of directors six months ago. A reason for this is that the report contains purely financial and economical aspects, while clinical indicators tend to be more important in a hospital. Nonetheless, considering the report's adoption in MZNL indicates that the need for these financial economical oriented data in hospitals is increasing and becoming more important.

The monthly summarized financial report used by MZNL is a purely financial economical policy framework. Because the report is still in its infancy and in development the link with MZNL's clinical indicators is still lacking. The report's content is dynamic in order that some indicators can be replaced by others dependent on MZNL's situation. The fact that the data are objective only increases the value of the monthly summarized financial report. Moreover the data collected about the report's aspects are also actually used to expose and fix underlying issues.

The set of indicators used by MZNL in their monthly summarized financial report is dynamic. The most indicators are fixed but a small number is dependent on the priorities that are established. Thus, the set of indicators is not fixed, but varies from time to time. Currently the report consists of the following numerical indicators:

Activity:

- Number of registrations
- Number of patients hospitalized
- Number of patients hospitalized in surgical policlinic
- Number of patients hospitalized in non-surgical policlinic
- Number of patients hospitalized in policlinic staying in residence ward
- Number of patients hospitalized in policlinic pediatrics
- Number of patients hospitalized via emergency department
- Number of consultations
- Number of births
- Number of invoiced forfaits

Administration:

- Invoice term
- Percentage of account receivables of previous months

Exploitation turnover

- Turnover room supplements
- Turnover forfaits
- Turnover pharmacy
- Turnover MTS's (medical technical services) fees
- Turnover clinician's fees

Exploitation costs:

- Supplies and deliveries
- Services and additional deliveries excluding CC (central collection)
- Central cashing MTD (medical technical services)
- Central cashing clinicians
- Remuneration and National Insurance contributions

Staff matters:

- Number of full-time equivalents (FTE)

Investment monitoring

- Investments

Beyond this data overview the report also contains a graphical display of the following indicators:

- Forfaits depending on type
- Occupancy rate percentage
- Patient days
- Origin of patients

As already mentioned the report has a dynamic content, which makes that the indicators above-mentioned can change through time.

6.2.3 Staff performance (HRM) indicators

Concerning human resource management the government almost has no obligatory rules. Only the 'Decree concerning the quality of the healthcare and welfare services' of 17 October 2003 states a number of indicators concerning human resource management should be monitored. With these governmental regulations at the back of the hospital's mind, MZNL evaluates their HRM data and performance on three levels:

- A monthly evaluation of the staff occupancy rate
- A yearly report on the staff and the organization
- An evaluation of employees' experience every two years

Which indicator systems and indicators MZNL uses on these three levels, to monitor their human resource management, will be discussed in the next sections.

6.2.3.1 Monthly evaluation of staff occupancy rate

This monthly evaluation of the occupancy rate of MZNL's employees only consists of comparing the number of full-time equivalents (FTE) that were employed the past month with the budgeted figures.

6.2.3.2 Yearly report on staff and organization

The yearly report is a more detailed one and provides information on a number of aspects concerning human resource management. The content of the report is achieved by starting from the policy plan and through agreements between hospitals which collaborate to create a sort of benchmarking instrument. The participating hospitals all collect data about the same indicators, which makes it possible to generate useful information by comparing these data with each other. The results of these HRM indicators are also included in MZNL's annual report. This benchmarking instrument contains information about the following HRM domains:

- Employment volume
- Composition of employment
- Commencement of employment and retirement
- Presence and absence
- Part-time employment
- Recruitment and selection
- Personnel development
- Economical data
- Seniority
- Cost analysis
- Revenue analysis
- Safety and health
- Employment measures

6.2.3.3 Biennial evaluation of employees' experience

For evaluating their employees' experience MZNL uses Delta, which is already discussed above, and can be used to map out the experiences of the patients, residents and employees and offers useful information about internal and external customers for a customer oriented management. In this case the experiences of MZNL's employees make up the main issue. In a certain way this part overlaps with the part about Delta as an indicator system to evaluate the quality management, because the evaluation of employees is indissoluble connected with the evaluation of quality. Concerning the evaluation of employees' experience Delta uses and processes data about the following domains:

- Leadership
- Appreciation
- Task agreements
- Commitment/atmosphere
- Collaboration
- Environment
- Information
- Personal development
- General

To collect data about these domains Delta provides a measurement instrument consisting of a number of statements which need to be judged by MZNL's employees. Employees can participate, during a measurement period, via Delta's website. The information resulting from these inquiries is used by MZNL's human resource management department for adjusting their employees' policy where necessary. More information about Delta as an indicator system can be found in section 5.4.3.

A disadvantage when using Delta is that the content of the measurement instrument is standardized. MZNL is bound by these statements provided by Delta and cannot choose which employee-related aspects they want to investigate. However, some aspects, not included in the standardized measurement instrument, can be important for a certain hospital and in this way cannot be evaluated by using Delta's instrument.

The evaluation of employees' experience in MZNL occurs every two year by using Delta's measurement instrument, which consists of a number of statements that are shown in Appendix 4.

To conclude, MZNL uses indicators on three levels concerning human resource management, each with the purpose of measuring performance in its area. Some of the indicators are regulated by the federal and/or Flemish government; others are applied on the initiative of MZNL itself. Some of these indicators are developed by an external organization, namely the Centrum voor Ziekenhuis- en Verplegingswetenschap; others are developed by MZNL itself, or in collaboration with other organizations. On the one hand, the main purpose of MZNL for using indicator systems and indicators is to comply with the federal and Flemish regulations, and to improve the internal functioning of the organization on the other hand.

Now that a clear image of MZNL's use of performance indicator systems and indicators is obtained in the areas of care, financial economical performance and staff performance (HRM), these indicators can be used to develop the new performance measurement model for MZNL. Before moving on to this, first the integration of MZNL's different indicators in the structure of the EFQM Excellence Model is discussed, after which also the extent to which the performance measurements support the strategic objectives needs to be determined.

6.3 Integration of different performance measurement systems in MZNL in the structure of the EFQM Excellence Model

This sections deals with the development of a generic organization-wide performance measurement model for MZNL. The hospital is already involved in performance management and measurement and applies a number of performance measurement systems as discussed above. For the construction of the performance measurement model, the structure of the EFQM Excellence Model will be used as a framework, because it covers all organizational areas. As shown in chapter 4, the structure of the EFQM Excellence Model consists of nine criteria, of which five are enabler criteria and four are results criteria, which will also be used to develop the generic performance measurement model for MZNL.

The starting point is the integration of the indicators that are already used by MZNL using the nine criteria of the EFQM Excellence Model. For the clinical aspect these indicators

come from the external performance measurement system Navigator. These clinical indicators are categorized in the criterion management of processes of the performance measurement model. A number of indicators concerning the year report on staff and organization are classified in the people management criterion. Only these two enabler criteria are addressed by MZNL.

The following indicators are regarding the results criteria, of which MZNL only addresses three criteria. Concerning the measurement of the customers' and employees' experience the indicators from Delta are incorporated, and are respectively classified in the criteria results for the patient and results for the people. Furthermore are the financial economical indicators in the performance measurement model classified in the criterion key performance results. Thus, concerning performance measurement MZNL is only active in the criteria people management, management of processes, results for the people, results for the patient and key performance results of the EFQM Excellence Model, as shown in Figure 6.1.

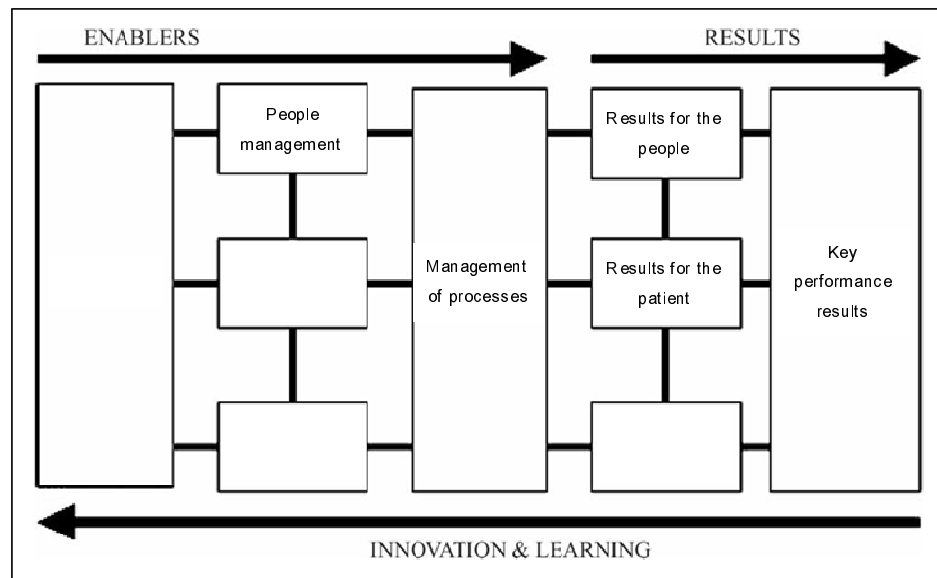


Figure 6.1: Criteria of the EFQM Excellence Model covered by MZNL (own version)

The indicators from Netzwerk Klinische Paden are not yet included in the model, because the use of NKP in MZNL is still in its infancy and has only just passed the start up phase, but in further development stages these indicators can be integrated in the model.

This integration of MZNL's indicators leads to a first performance measurement framework consisting of the hospital's current performance indicators based on the criteria of the EFQM Excellence Model. However, because MZNL doesn't apply corporate performance measurement yet, and therefore doesn't use organization-wide performance indicators, a number of the model's criteria are still empty and are until today not monitored. For these criteria indicators can be used from literature and other existing hospital performance measurement systems, as will be discussed below.

6.4 Support of the strategic objectives by performance measurements in MZNL

As already mentioned throughout this paper, it is important that an organization has an appropriate strategy and that the performance indicators used are linked with this strategy. For MZNL these strategic objectives are:

- MZNL wants to be the first choice for the population in its region and for all its partners in healthcare.
- MZNL wants to obtain and preserve a positive image by striving for maximal patient satisfaction and sublimely professional quality of care, with attention for modernization in the field of professionalism as well as the specialization offered.
- MZNL will, through good communication, a multidisciplinary approach and motivating leadership, create working conditions that lead to satisfied employees.
- MZNL will use available resources in an efficient and effective way in function of its core business.

From these strategic objectives it turns out that MZNL wants to give attention to client friendliness, but also wants to invest in the modernization, professionalization and specialisation of "care". Among other things the following indicators point clearly in that direction. In the area of care the aspect client friendliness is measured by MZNL using Delta's measurement instrument of patients' experience, which consists of indicators like the level of information obtained concerning the treatment, the level of respect of nurses towards patients and the level of satisfaction concerning the room. Concerning professionalism and the specialisation of care MZNL uses indicators concerning the training and education of their employees like the number of hours of education followed

per paid FTE and the number of different employees that follow an education. Furthermore, the use of indicators from Netwerk Klinische Paden indicates that MZNL has started with the development of clinical paths to improve the planning and organization of (complex) processes, and thus refers to the modernization and professionalization of care. In that area MZNL also makes use of a set of indicators from Navigator, for instance consisting of the number of fall incidents, the incidence of MRSA picked up in the hospital and the use of hand alcohol for hand hygiene.

Furthermore, MZNL also wants to take care of their staff to obtain satisfied employees. To measure this aspect concerning staff performance MZNL applies Delta's measurement instrument of employees' experience. This instrument includes indicators like the level of satisfaction concerning the management, the level of opportunities for personal development and the level of safety in the working environment.

Besides, MZNL puts forward the effective and efficient use of their resources. In this field MZNL makes use of for instance the financial economical indicator investments which compares the real investments with the budgeted investments, and the cash flow level to monitor the use of financial resources.

6.5 Generic EFQM Excellence Model for MZNL

In addition to the performance measurements and indicators MZNL already applies, there are still a number of relevant indicators and measures that can be included in the performance measurement model. Beginning with the first criterion leadership, which for the moment contains no indicators in MZNL, some relevant indicators concerning the involvement and commitment of the management can be added like for instance the number of interactions of the management with patients and partners. In the area of policy and strategy MZNL is present because they have developed a clear vision and mission, developed a set of strategic objectives and formulated a policy plan. However, specific measures in this area are lacking, which leaves the possibility to suggest some relevant measures concerning policy and strategy, like for example the number of meetings concerning the review of the policy and strategy in order to keep it up to date. Furthermore, there is the possibility to extend the people management criterion with motivational indicators like the number of vacancies that are filled in internally. Indicators in the field of partnerships and resources are also hardly included in MZNL's performance measurements. Some relevant indicators that can be added are the level of

new technologies adopted and the number of meetings with external partners. Regarding the criterion management of processes the number of clinical paths developed and number of clinical paths implemented are indicators that can be relevant in pointing out the development and improvement of processes. In the criteria results for the people and results for the patient MZNL uses the measurement instruments provided by Delta, which cover the most relevant aspects and thus needs no further addition. Concerning the impact on society some relevant measurements can be added because it turns out that from their strategic objectives they are striving for a positive image in a certain way. The percentage of waste recycled, the number of sponsored activities and the amount of water used per patient are indicators that can be relevant to determine the attractiveness of MZNL towards the society. Finally, regarding the key performance results financial indicators like the debt ratio and cash ratio can be relevant to verify whether the needs of the financial stakeholders are satisfied.

Before continuing with the actual development of the performance measurement model, an overview of the meaning of the criteria of the EFQM Excellence Model for a hospital, MZNL in this case, and a number of indicators are discussed below.

Leadership

How the hospital management promotes and supports a culture of continuous improvement, by supervising the organizational management and by interacting with patients and the environment.

- The development of vision, mission and values, and supervision of the organizational management
- Interaction with patients
- Interaction with representatives of society
- Communication, motivation and support of employees
- Openness for new developments

Policy and strategy

How the hospital management develops a planning process to translate the aims into actions to evolve to innovative care services in the hospital.

- Communication about policy and strategy throughout the organization
- Information based development and adjustments of policy and strategy
- Alignment of policy and strategy with stakeholders' needs and expectations

People management

How the hospital management enables staff to develop their full potential to deliver optimal care services and to contribute to the life of the hospital, like matching staff skills to the aims of the hospital.

- Deployment of expertise via education
- Involving and motivating staff
- Organization of personnel management including selection, promotion, remuneration and wellbeing

Partnerships

The hospital manages its relations with the patient's family, government, pharmaceutical and medical industry, and the community; and networking with other hospitals, and the community of doctors.

- Managing relationships with educational institutions via internships and research projects
- Managing relationships with government and healthcare sector

Resources

The hospital manages staff, buildings, materials, information and knowledge resources to contribute to care services and their improvements.

- Managing financial resources, facilities, technology and knowledge

Management of processes

Managing and evaluating all key areas of hospitalization, treatment and nursing processes.

- Control and management of care processes between hospitalization, treatment and nursing
- Evaluation of quality and improvement
- Innovation
- Development of optimal clinical paths

Results for the patient

How does the hospital meet the expectations of the patients and the patients' family?

- Patients' experience during hospitalization and aspects concerning accommodation and atmosphere
- Patients' experience concerning treatment
- Patients' experience concerning nursing

Results for the people

Are staff members motivated and satisfied with the working conditions and with the hospital life?

- Staff's experience with accommodation and atmosphere
- Staff's relation with superiors
- Staff's experience with clearness concerning job description
- Staff's involvement and appreciation
- Staff's skill level

Impact on society

How does the hospital meet the expectations of the community and what is the long term impact on personal and social development in the community?

- Level of ecofriendliness
- Services to community and stimulating actions for minority groups

Key performance results

The achievement of the targets the hospital has set with respect to the results and impacts of the care services to the stakeholders being the government, the patients and the patients' family.

- Level of patient activities
- Exploitation revenue
- Exploitation costs
- Financial analysis
- Investments

These criteria can also be presented in a clearly set out generic framework based on the EFQM Excellence Model. This framework, based on a model described by Moreau and Schreurs (2007), displays these criteria and what these criteria mean for a hospital, MZNL in this case, and is shown in Figure 6.2.

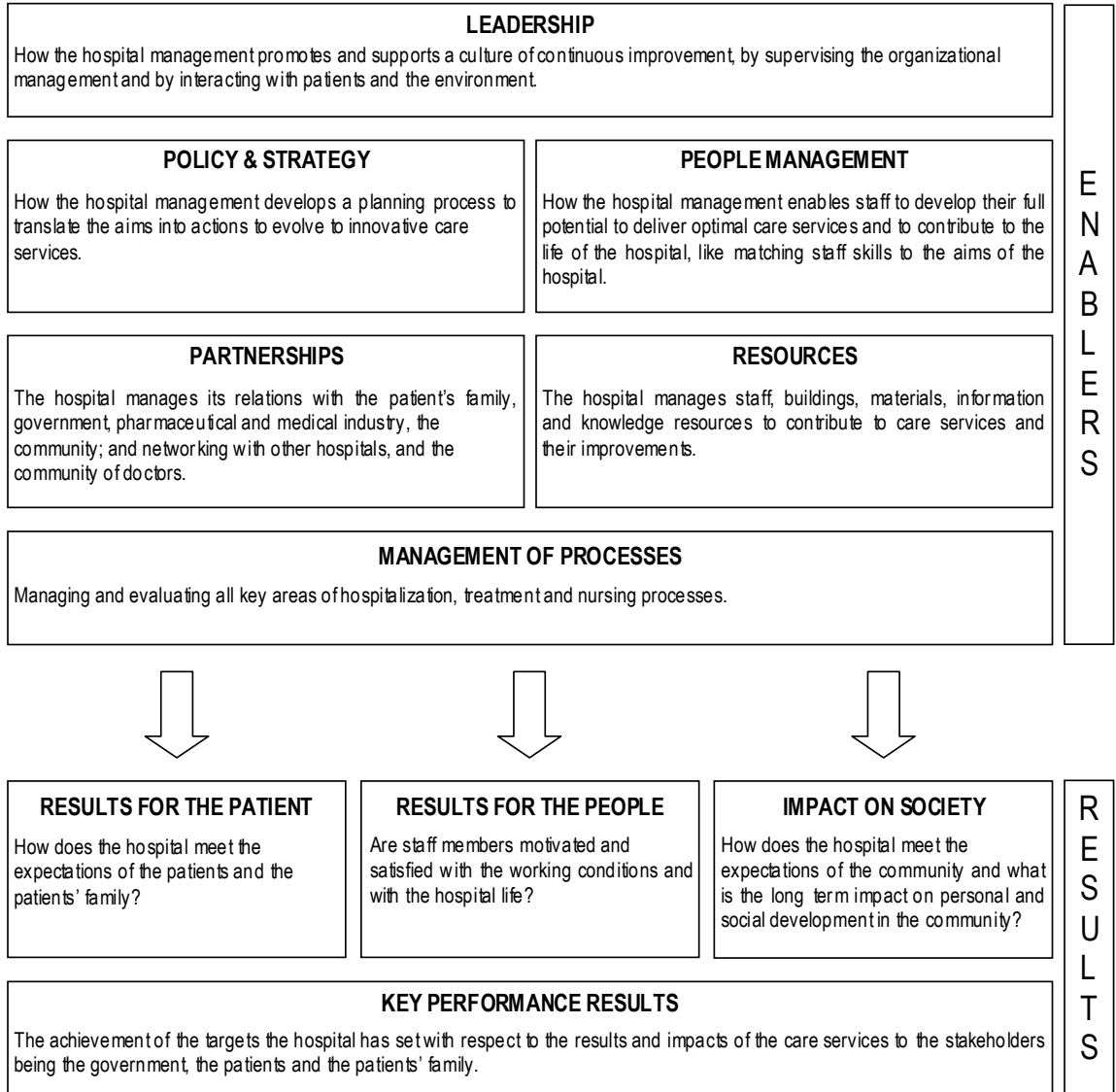


Figure 6.2: EFQM framework for MZNL (own version)

The development of the generic performance measurement model for MZNL consists of two different steps. Firstly, the performance indicators already used by MZNL are incorporated and categorized in the performance measurement model using key performance indicators (KPI's) and key performance indicator measurements (KPI measurements). Secondly, a number of other relevant key performance indicators, like those mentioned above, and KPI measurements are identified and included in the performance measurement model. These additional relevant indicators are in italic in the model, which is shown in Table 6.1.

Table 6.1: Generic EFQM Excellence Model for MZNL (own version)

| CRITERIA | KEY PERFORMANCE INDICATORS | KPI measurements |
|------------------------------|--|--|
| Leadership | The development of vision, mission and values and supervision of the organizational management | Average number of meetings concerning evaluation of the organization's mission, vision and values |
| | | Average number of leaders present at meetings concerning evaluation of the organization's mission, vision and values |
| | | Average number of interactions with persons responsible for the management system |
| | | Average number of hours of meetings with persons responsible for the management system |
| | Interaction with patients | Average number of interactions with customers |
| | Interaction with representatives of society | Average number of interactions with society's representatives |
| | | Average number of meetings with society's representatives |
| | Communication, motivation and support of employees | Average number of performance interviews with employees |
| | | Average number of performance reviews with employees |
| | | Average number of encouragement talks with employees |
| | Openness for new developments | Average number of new technologies implemented on the leader's initiative |
| | | Average number of new systems implemented on the leader's initiative |
| Policy & strategy | Communication about policy and strategy throughout the organization | Number of information sessions organized concerning the organization's policy |
| | | Number of information sessions organized concerning the organization's strategy |

| CRITERIA | KEY PERFORMANCE INDICATORS | KPI measurements |
|--------------------------|--|---|
| | Information based development and adjustments of policy and strategy | Number of times new information resulted in a new development or adjustment in policy |
| | | Number of times new information resulted in a new development or adjustment in strategy |
| | | Number of meetings concerning policy and strategy |
| | | Number of adaptations concerning the organization's policy due to changes |
| | | Number of adaptations concerning the organization's strategy due to changes |
| | | Number of new topics added to the organization's policy |
| | | Number of new topics added to the organization's strategy |
| | Alignment of policy and strategy with stakeholders' needs and expectations | Number of meetings with stakeholders concerning a new development or adjustment in policy |
| | | Number of meetings with stakeholders concerning a new development or adjustment in strategy |
| People management | Deployment of expertise via education | Number of employees that joined in a performance interview |
| | | Number of employees that joined in a performance review |
| | | Number of hours education followed per paid FTE |
| | | Number of different employees that follow the education |
| | Involving and motivating staff | Hours of absence due to illness |
| | | Hours of absence due to working accident |
| | | Average number of staff members attending a meeting |
| | | Number of ideas generated for improvements formulated by staff members |

| CRITERIA | KEY PERFORMANCE INDICATORS | KPI measurements |
|---------------------|---|--|
| | | Hours of absence due to vacation |
| | | Hours of absence due to pregnancy |
| | | Hours of absence due to time credit and thematic vacation |
| | | Hours of absence due to education |
| | | Hours of absence due to other events |
| | | Potential number of hours presence |
| | | Number of employees per seniority class |
| | | Composition of employment according to age in terms of percentage |
| | | Average age |
| | | |
| | Organization of personnel management including selection, promotion, remuneration and wellbeing | Frequency rate of working accidents |
| | | Severity rate of working accidents |
| | | Number of resignations |
| | | Number of resignations done by employee |
| | | Number of resignations done by employer |
| | | Number of vacancies filled in internally in terms of percentage |
| | | Average proportion of variable remuneration against fixed remuneration |
| | | Number of staff members in performance system of remuneration in terms of percentage |
| | | |
| Partnerships | Managing relationships with educational institutions via internships and research projects | Number of interns |
| | | Number of projects concerning delegation of knowledge participated |

| CRITERIA | KEY PERFORMANCE INDICATORS | KPI measurements |
|--------------------------------|--|---|
| | | <i>Financial contribution to research</i> |
| | | |
| | <i>Managing relationships with government and health care sector</i> | <i>Number of meetings with governmental institutions</i> |
| | | <i>Number of meetings with external partners</i> |
| | | <i>Number of cooperation projects with other hospitals</i> |
| | | |
| Resources | <i>Managing financial resources, facilities, technology and knowledge</i> | <i>Number of meetings of financial commission</i> |
| | | <i>Number of meetings concerning financial policy</i> |
| | | <i>Number of meetings concerning buildings, installations & materials</i> |
| | | <i>Number of inspections of buildings, installations & materials</i> |
| | | <i>Number of meetings concerning the development and application of technologies</i> |
| | | <i>Number of new technologies adopted</i> |
| | | <i>Level of use of information systems</i> |
| | | <i>Level of data warehousing</i> |
| | | <i>Percentage of products with current prices available</i> |
| | | <i>Number of suppliers with price agreements</i> |
| | | <i>Percentage of suppliers using online order processing</i> |
| | | <i>Percentage of suppliers applying JIT</i> |
| | | |
| Management of processes | <i>Control and management of care processes between hospitalization, treatment and nursing</i> | <i>Waiting period between the registration and the start of the surgical operation's preparation in the surgical day hospital</i> |
| | | <i>Waiting period between the registration and the departure to the surgery quarters in the surgical day hospital</i> |

| CRITERIA | KEY PERFORMANCE INDICATORS | KPI measurements |
|----------|---------------------------------------|---|
| | | Waiting period between the start of the surgical operation's preparation and the departure to the surgery quarters in the surgical day hospital |
| | | Average length of stay of patients on the emergency department |
| | | Total number of unplanned hospitalizations after day treatment |
| | | Cancellation of a treatment according to type and initiator |
| | | <i>Daily staffing against occupancy</i> |
| | | |
| | | |
| | Evaluation of quality and improvement | Total number of fall incidents |
| | | Fall incidents according to department |
| | | Total number of fall incidents resulting in injuries |
| | | Fall incidents resulting in injuries according to degree of seriousness |
| | | Fall incidents during the day |
| | | Fall incidents during the night |
| | | Resistance number of <i>S. aureus</i> |
| | | Incidence of MRSA picked up in the hospital |
| | | Incidence density of MRSA picked up in the hospital |
| | | Proportion of MRSA picked up in the hospital according to total MRSA in the hospital |
| | | Total prevalence of decubitus |
| | | Prevalence of decubitus according to degree |
| | | Total prevalence of decubitus developed during hospitalization |
| | | Prevalence of decubitus developed according to department |
| | | Usage of hand alcohol for hand hygiene |
| | | |

| CRITERIA | KEY PERFORMANCE INDICATORS | KPI measurements |
|----------|--|--|
| | <i>Innovation</i> | <i>Total number of new technologies adopted</i> |
| | | <i>Amount spent on new technologies</i> |
| | | <i>Total number of new equipments put into use</i> |
| | | <i>Amount spent on new equipment</i> |
| | | |
| | <i>Development of optimal clinical paths</i> | <i>Number of clinical paths developed</i> |
| | | <i>Number of clinical paths implemented</i> |

| | | |
|---|---|--|
| Results for the patient | Patients' experience during hospitalization and aspects concerning accommodation and atmosphere | Level of information obtained concerning hospitalization |
| | | Level of satisfaction concerning meals |
| | | Level of satisfaction concerning room |
| | | Level of satisfaction concerning visiting hours |
| | | Level of modesty of the atmosphere |
| | | Level of information obtained concerning discharge |
| | | |
| | Patients' experience concerning treatment | Level of information obtained concerning treatment |
| | | Level of medical treatment |
| | | Level of doctors' attainableness |
| | Level of respect from doctors towards patients | |
| | Level of information obtained concerning aftercare | |
| | | |
| Patients' experience concerning nursing | Level of nursing treatment | |
| | Level of respect from nurses towards patients | |
| | Level of nurses' attainableness | |
| | Level of information obtained | |
| | Level of service from social services | |

| CRITERIA | KEY PERFORMANCE INDICATORS | KPI measurements |
|------------------------|---|---|
| Results for the people | Staffs experience with accommodation and atmosphere | Level of atmosphere on department |
| | | Level of cleanliness |
| | | Level of possibilities to ventilate stress |
| | | Level of availability of material resources to execute function |
| | | Level of maintenance of materials |
| | | Level of environmental ordering to execute function |
| | | Level of safe working environment |
| | | Level of atmosphere in organization |
| | | Level of solving conflicts |
| | | |
| | Staffs relation with superiors | Level of satisfaction concerning management |
| | | Level of satisfaction concerning head of the department |
| | | Level of satisfaction concerning care manager |
| | | Level of satisfaction concerning head of service |
| | | Level of satisfaction concerning direct head |
| | | |
| | Staffs experience with clearness concerning job description | Level of clearness of objectives |
| | | Level of clear distribution of tasks |
| | | Level of clear work procedures |
| | | Level of collaboration with colleagues from other departments |
| | | |
| | Staffs involvement and appreciation | Level of appreciation of work |
| | | Level of acknowledgement of good results |
| | | Level of responsibility |
| | | Level of appreciation as employee by colleagues |
| | | Level of appreciation as employee by patients |

| CRITERIA | KEY PERFORMANCE INDICATORS | KPI measurements |
|----------|----------------------------|--|
| | | Level of appreciation of new ideas |
| | | Level of involvement with department |
| | | Level of involvement concerning evaluation |
| | | Level of fairness of wage |
| | | |
| | Staff's skill level | Level of satisfaction concerning performance interview |
| | | Level of satisfaction concerning performance review |
| | | Level of possibilities for personal development |
| | | Level of education opportunities |

| | | |
|--------------------------|---|---|
| Impact on society | Level of ecofriendliness | Number of liters of cleaner used |
| | | Amount spent on recycled furniture |
| | | Proportion of recycled furniture against not recycled furniture |
| | | Amount spent on recycled paper |
| | | Proportion of recycled paper against not recycled paper |
| | | Percentage of waste recycled |
| | | Amount of water utilized per patient |
| | | Amount of electricity utilized per patient |
| | | |
| | Services to community and stimulating actions for minority groups | Number of sponsored activities |
| | | Amount spent on social and cultural activities |
| | | Percentage of female employees |
| | | Percentage of allochthonous employees |
| | | Percentage of disabled employees |

| CRITERIA | KEY PERFORMANCE INDICATORS | KPI measurements |
|--------------------------------|-----------------------------|---|
| Key performance results | Level of patient activities | Number of full-time equivalents (FTEs) |
| | | Occupancy rate |
| | | Patient days |
| | | Origin of patients |
| | | Duration of hospitalization |
| | | Number of registrations |
| | | Number of patients hospitalized |
| | | Number of patients hospitalized in surgical policlinic |
| | | Number of patients hospitalized in non-surgical policlinic |
| | | Number of patients hospitalized in policlinic staying in residence ward |
| | | Number of patients hospitalized in policlinic pediatrics |
| | | Number of patients hospitalized via emergency department |
| | | Number of consultations |
| | | Number of births |
| | | Number of invoiced forfaits |
| | | |
| | Exploitation revenue | Turnover room supplements |
| | | Turnover forfaits |
| | | Turnover pharmacy |
| | | Turnover MT'Ss (medical technical services) fees |
| | | Turnover clinician's fees |
| | | |
| | Exploitation costs | Supplies and deliveries |

| CRITERIA | KEY PERFORMANCE INDICATORS | KPI measurements |
|----------|----------------------------|--|
| | | Services and additional deliveries excluding CC (central collection) |
| | | Central cashing MTD |
| | | Central cashing clinicians |
| | | Remuneration and National Insurance contributions |
| | | |
| | Financial analysis | Invoice term |
| | | Percentage of accounts receivables of previous months |
| | | Forfaits depending on type |
| | | Financial coverage |
| | | Cash flow level |
| | | <i>Debt ratio</i> |
| | | <i>Cash ratio</i> |
| | | |
| | Investments | Investments |

6.6 Discussion and conclusions

Concerning the development of an organizational strategy and the use of performance measurements linked to the strategic objects some short comments can be formulated. At first it can be a possibility to take into account the role of performance measurement already during the development of the vision, mission and strategy. This can be done by including objectives and statements that are measurable. This can prevent difficulties later on concerning the way of linking performance measurements with the organization's strategy. Furthermore, the feasibility of the measurements is also important because it is not possible to measure all indicators in the same way. Some indicators will be more difficult to measure than other indicators. In addition there are a large number of indicators available, of which only those which are the most important need to be selected because it is impossible to measure them all. Also the involvement of people in the organization plays an important role because they make these performance measurements possible. Hence, besides its dependence of the organization's strategy, the selection of a set of indicators is also dependent on the feasibility and the relevance of the measurements, and the involvement of the people in the organization. That is why indicators that are not too specific and cover a large part of the organization should be chosen.

The government also plays a very important role concerning performance measurement in hospitals, on the one hand because of the subsidies and on the other hand because of the visitations. A possible trend is visible in the area of visitations when looking at other countries, namely the rise of accreditation which may possibly replace the visitations in the future. Accreditation is the evaluation of the reliability of a hospital's care service. This system of accreditation obliges hospitals to guarantee this reliable quality of care and keep improving it. With such an accreditation certificate hospitals can justify themselves towards third parties. Some examples from abroad are the NIAZ in the Netherlands and the Joint Commission in the United States.

7 General conclusion

During the 1970's decision support systems have been the dominant way for organizations to model the future. In the 1980's the focus was on executive information systems to provide organizations with the technology to investigate their strengths and weaknesses. In the 1990's the emphasis was on business intelligence, to cope with the higher pace of business. However, the last decade the concept of corporate performance management has emerged. Corporate performance management is an umbrella term that is used to describe the different metrics, methodologies, processes and systems that are used to monitor and manage the performance of business (Coveney, 2002). Throughout the years several corporate performance management instruments have been developed and described in literature that can help organizations with the measurement and management of their organization-wide business performance. The Six Sigma approach, the European Quality Award, the Deming Prize and the Malcolm Baldrige National Quality Award are some examples of these corporate performance management instruments. However, the focus in this paper is particularly on the Balanced Scorecard and the EFQM Excellence Model, which are probably the most well-known CPM instruments.

The purpose of this thesis was to develop a corporate performance management model for a healthcare organization, based on the structure of the EFQM Excellence Model and linked to the organization's strategy. When looking at articles in literature, a combination of some aspects of the Balanced Scorecard and the EFQM Excellence Model would yield a proper solution for the generic model's framework and content.

Firstly, it became clear that the role of a clear strategy in organizations is of vital importance. The Balanced Scorecard clearly anticipates on this, because this instrument provides a framework for organizations to measure and manage their business performance starting from the organization's vision, mission and strategic objectives. Starting with the organization's strategic objectives guarantees that the final performance measurements will indicate how well the organization succeeds in executing its strategy. Furthermore, the Balanced Scorecard provides an overall view of the organization using four perspectives which are the financial perspective, the customer perspective, the internal business process perspective and the learning and growth perspective, each containing a number of critical success factors and corresponding

critical performance indicators. Because of its dependence on the organization's strategy, the Balanced Scorecard of each company will be different.

On the other hand, when examining the EFQM Excellence Model it strikes that the link with the organization's strategic objectives is missing. Instead this instrument provides a standard framework for all organizations, which can be used to make self-assessments and to benchmark against other organizations. Compared to the Balanced Scorecard, this model consists of nine criteria, of which five are enabler criteria, being leadership, policy and strategy, people, resources and partnerships, and processes, and four result criteria, being people results, customer results, society results, and key performance results.

Another important issue when looking at non-profit organizations and hospitals in particular is that these corporate performance management instruments were adapted in a certain way because of the missing commercial orientation. In this type of organizations the structure of the Balanced Scorecard was adapted by placing the customer perspective also on top, pointing at the importance of the services offered rather than emphasizing financial motives. Even more important in hospitals than in traditional profit organizations, are also the governmental regulations that exist concerning corporate performance management which need to be kept in mind because the amount of subsidies granted is a part of these regulations.

Furthermore, during the examination of corporate performance management for hospitals in Belgium it turned out that the Centrum voor Ziekenhuis- en Verplegingswetenschap (K.U.Leuven) developed a number of measurement systems, for instance to comply with the governmental regulations. Some of these systems like Navigator, Delta and Netwerk Klinische Paden can be applied by hospitals to manage and measure performance in certain organizational areas, while Kwadrant appears to offer an organization-wide coverage.

As already mentioned the ultimate purpose of this thesis was to develop a generic EFQM Excellence Model for a hospital, which is based on a case study performed in the Mariaziekenhuis Noord-Limburg (MZNL) with the view to examine what the hospital was currently doing regarding performance management. For the development of the generic model, the structure of the EFQM Excellence Model consisting of the nine criteria was used as a basis to create an appropriate structure. Furthermore, the indicators included in the model needed to be linked to MZNL's strategic objectives, which is an aspect that can be recovered in the method of working of the Balanced Scorecard. The final step was

examining which indicator systems and indicators MZNL already applied and incorporating them in a model. When it appeared that not all the criteria of the EFQM Excellence Model were covered, some other relevant indicators from the literature and performance measurement systems were added.

During this research also some interesting observations have risen concerning corporate performance management in general and in healthcare organizations. At first organizations could consider that, when developing a vision, mission and strategy for the organization, they could take into account the measurability and feasibility. This can make it easier afterwards when starting with performance measurement in the organization. In addition, it turned out that the traditional performance management systems like the Balanced Scorecard and the EFQM Excellence Model are still rather applicable in profit organizations and that adaptations are necessary to be appropriate for non-profit organizations. Considering the little literature that is available concerning corporate performance management in non-profit organizations and hospitals, and the growing importance of the services provided by these organizations nowadays, makes of this topic an important area of analysis for further research.

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Appendix

Appendix 1: Indicators from Navigator used by MZNL

| Registratie periode | Domein | Deeldomein | Indicator | Selectie |
|---------------------|--|--|--|---|
| | 1. Domein: Ziekenhuissterfte | | | |
| | | 1.1. Deeldomein: Totale ziekenhuissterfte | | |
| 01/01/05 - | | | 1.1.1. Indicator: Totale ziekenhuissterfte | 07/02/05 SKZ voorlopig voor onbepaalde duur |
| | | 1.3. Deeldomein: Ziekenhuissterfte volgens sterfterisico | | |
| 01/01/05 - | | | 1.3.1. Indicator: Ziekenhuissterfte van patiënten met sterfterisico klasse 1 (DRG-gerelateerd) | 07/02/05 SKZ voorlopig voor onbepaalde duur |
| 01/01/05 - | | | 1.3.2. Indicator: Ziekenhuissterfte van patiënten met sterfterisico klasse 2 (DRG-gerelateerd) | 07/02/05 SKZ voorlopig voor onbepaalde duur |
| 01/01/05 - | | | 1.3.3. Indicator: Ziekenhuissterfte van patiënten met sterfterisico klasse 3 (DRG-gerelateerd) | 07/02/05 SKZ voorlopig voor onbepaalde duur |
| 01/01/05 - | | | 1.3.4. Indicator: Ziekenhuissterfte van patiënten met sterfterisico klasse 4 (DRG-gerelateerd) | 07/02/05 SKZ voorlopig voor onbepaalde duur |
| | 2. Domein: Decubitus | | | |
| 01/01/05 - | | 2.1. Deeldomein: Prevalentie van decubitus | | |
| 01/01/05 - | | | 2.1.1. Indicator: Totale prevalentie van decubitus | 07/02/05 SKZ voorlopig voor onbepaalde duur |
| 01/01/05 - | | | 2.1.2. Indicator: Prevalentie van decubitus graad 1 | 07/02/05 SKZ voorlopig voor onbepaalde duur |
| 01/01/05 - | | | 2.1.3. Indicator: Prevalentie van decubitus van graad 2 | 07/02/05 SKZ voorlopig voor onbepaalde duur |
| 01/01/05 - | | | 2.1.4. Indicator: Prevalentie van decubitus van graad 3 | 07/02/05 SKZ voorlopig voor onbepaalde duur |
| 01/01/05 - | | | 2.1.5. Indicator: Prevalentie van decubitus van graad 4 | 07/02/05 SKZ voorlopig voor onbepaalde duur |
| | 2.2. Deeldomein: Prevalentie van decubitus die zich ontwikkeld heeft tijdens de ziekenhuisopname | | | |
| 01/01/05 - | | | 2.2.1. Indicator: Totale prevalentie van decubitus die zich ontwikkeld heeft tijdens de ziekenhuisopname | 07/02/05 SKZ voorlopig voor onbepaalde duur |
| 01/01/05 - | | | 2.2.2. Indicator: Prevalentie van decubitus die zich ontwikkeld heeft bij patiënten op een C-dienst | 07/02/05 SKZ voorlopig voor onbepaalde duur |
| 01/01/05 - | | | 2.2.3. Indicator: Prevalentie van decubitus die zich ontwikkeld heeft bij patiënten op een D-dienst | 07/02/05 SKZ voorlopig voor onbepaalde duur |
| 01/01/05 - | | | 2.2.4. Indicator: Prevalentie van decubitus die zich ontwikkeld heeft bij patiënten op een gemengde C/D-dienst | 07/02/05 SKZ voorlopig voor onbepaalde duur |

| Registratie periode | Domein | Deeldomein | Indicator | Selectie |
|---------------------|--|---------------------------------|--|---|
| 01/01/05 - | | | 2.2.5. Indicator: Prevalentie van decubitus die zich ontwikkeld heeft bij patiënten op een G-dienst | 07/02/05 SKZ voorlopig voor onbepaalde duur |
| 01/01/05 - | | | 2.2.6. Indicator: Prevalentie van decubitus die zich ontwikkeld heeft bij patiënten op een dienst voor intensieve zorg | 07/02/05 SKZ voorlopig voor onbepaalde duur |
| | 3. Domein: Valincindenten | | | |
| | | 3.1. Deeldomein: Valincindenten | | |
| 01/10/07 - | | | 3.1.1. Indicator: Totaal aantal valincindenten | 01/10/07 SKZ voorlopig voor onbepaalde duur |
| 01/10/07 - | | | 3.1.2. Indicator: Valincindenten van patiënten op een C-dienst | 01/10/07 SKZ voorlopig voor onbepaalde duur |
| 01/10/07 - | | | 3.1.3. Indicator: Valincindenten van patiënten op een D-dienst | 01/10/07 SKZ voorlopig voor onbepaalde duur |
| 01/10/07 - | | | 3.1.4. Indicator: Valincindenten van patiënten op een gemengde C/D-dienst | 01/10/07 SKZ voorlopig voor onbepaalde duur |
| 01/10/07 - | | | 3.1.5. Indicator: Valincindenten van patiënten op een G-dienst | 01/10/07 SKZ voorlopig voor onbepaalde duur |
| 01/10/07 - | | | 3.1.6. Indicator: Valincindenten van patiënten op een M-dienst | 01/10/07 SKZ voorlopig voor onbepaalde duur |
| 01/10/07 - | | | 3.1.7. Indicator: Aantal valincindenten van patiënten op een dienst voor intensieve zorg | 01/10/07 SKZ voorlopig voor onbepaalde duur |
| 01/10/07 - | | | 3.1.8. Indicator: Valincindenten van patiënten op een E-dienst | 01/10/07 SKZ voorlopig voor onbepaalde duur |
| 01/10/07 - | | | 3.1.9. Indicator: Aantal valincindenten van patiënten op de spoedgevallendienst | 01/10/07 SKZ voorlopig voor onbepaalde duur |
| 01/10/07 - | | | 3.1.10. Indicator: Aantal valincindenten van patiënten in het chirurgisch dagziekenhuis | 01/10/07 SKZ voorlopig voor onbepaalde duur |
| | 3.2. Deeldomein: Valincindenten met verwonding tot gevolg | | | |
| 01/10/07 - | | | 3.2.1. Indicator: Totaal aantal valincindenten met verwonding tot gevolg | 01/10/07 SKZ voorlopig voor onbepaalde duur |
| 01/10/07 - | | | 3.2.2. Indicator: Valincindenten met verwonding van ernstklasse 1 tot gevolg | 01/10/07 SKZ voorlopig voor onbepaalde duur |
| 01/10/07 - | | | 3.2.3. Indicator: Valincindenten met verwonding van ernstklasse 2 tot gevolg | 01/10/07 SKZ voorlopig voor onbepaalde duur |
| 01/10/07 - | | | 3.2.4. Indicator: Valincindenten met verwonding van ernstklasse 3 tot gevolg | 01/10/07 SKZ voorlopig voor onbepaalde duur |
| | 3.3. Deeldomein: Valincindenten volgens tijdstip van voorkomen | | | |
| 01/10/07 - | | | 3.3.1. Indicator: Valincindenten tijdens de dag | 01/10/07 SKZ voorlopig |

| Registratie periode | Domein | Deeldomein | Indicator | Selectie |
|---------------------|---|--|---|---|
| 01/10/07 - | | | 3.3.2. Indicator: Aantal valincidenten tijdens de nacht | voor onbepaalde duur. 01/10/07 SKZ voorlopig voor onbepaalde duur |
| | 8. Domein: Zorg aan patiënten op de spoedgevallendienst | | | |
| | | 8.1 Deeldomein: Doorstroming op de spoedgevallendienst | | |
| | | 8.1.1. Indicator: Verblijfsduur van patiënten op de spoedgevallendienst <= 2 uur | | |
| 01/01/06 - | | | 8.1.1.1. Indicator: Verblijfsduur van patiënten op de spoedgevallendienst <= 2 uur en ontslag naar huis | 31/12/05 Spoed voorlopig voor onbepaalde duur |
| 01/01/06 - | | | 8.1.1.2. Indicator: Verblijfsduur van patiënten op de spoedgevallendienst <= 2 uur en opname in het ziekenhuis | 31/12/05 Spoed voorlopig voor onbepaalde duur |
| 01/01/06 - | | | 8.1.1.3. Indicator: Verblijfsduur van patiënten op de spoedgevallendienst <= 2 uur en transfer naar een ander ziekenhuis | 31/12/05 Spoed voorlopig voor onbepaalde duur |
| 01/01/06 - | | | 8.1.1.4. Indicator: Verblijfsduur van patiënten op de spoedgevallendienst <= 2 uur en alle andere bestemmingen | 31/12/05 Spoed voorlopig voor onbepaalde duur |
| | | 8.1.2. Indicator: Verblijfsduur van patiënten op de spoedgevallendienst > 2 uur, maar <= 4 uur | | |
| 01/01/06 - | | | 8.1.2.1. Indicator: Verblijfsduur van patiënten op de spoedgevallendienst > 2 uur, maar <= 4 en ontslag naar huis | 31/12/05 Spoed voorlopig voor onbepaalde duur |
| 01/01/06 - | | | 8.1.2.2. Indicator: Verblijfsduur van patiënten op de spoedgevallendienst > 2 uur, maar <= 4 en gevolgd door een opname in het ziekenhuis | 31/12/05 Spoed voorlopig voor onbepaalde duur |
| 01/01/06 - | | | 8.1.2.3. Indicator: Verblijfsduur van patiënten op de spoedgevallendienst > 2 uur, maar <= 4 en transfer naar een ander ziekenhuis | 31/12/05 Spoed voorlopig voor onbepaalde duur |
| 01/01/06 - | | | 8.1.2.4. Indicator: Verblijfsduur van patiënten op de spoedgevallendienst > 2 uur, maar <= 4 uur en alle andere bestemmingen. | 31/12/05 Spoed voorlopig voor onbepaalde duur |
| | | 8.1.3. Indicator: Verblijfsduur van patiënten op de spoedgevallendienst > 4 uur, maar <= 6 uur | | |
| 01/01/06 - | | | 8.1.3.1. Indicator: Verblijfsduur van patiënten op de spoedgevallendienst > 4 uur, maar <= 6 en ontslag naar huis | 31/12/05 Spoed voorlopig voor onbepaalde duur |
| 01/01/06 - | | | 8.1.3.2. Indicator: Verblijfsduur van patiënten op de spoedgevallendienst > 4 uur, maar <= 6 uur en gevolgd door | 31/12/05 Spoed voorlopig voor onbepaalde duur |

| Registratie periode | Domein | Deeldomein | Indicator | Selectie |
|---------------------|--|---|--|---|
| 01/01/06 - | | | een opname in het ziekenhuis | |
| 01/01/06 - | | | 8.1.3.3. Indicator: Verbljfsduur van patiënten op de spoedgevallendienst > 4 uur, maar <= 6 uur en transfer naar een ander ziekenhuis | 31/12/05 Spoed voorlopig voor onbepaalde duur |
| 01/01/06 - | | | 8.1.3.4. Indicator: Verbljfsduur van patiënten op de spoedgevallendienst > 4 uur, maar <= 6 uur en alle andere bestemmingen | 31/12/05 Spoed voorlopig voor onbepaalde duur |
| | | 8.1.4. Indicator: Verbljfsduur van patiënten op de spoedgevallendienst > 6 uur, maar <= 8 uur | | |
| 01/01/06 - | | | 8.1.4.1. Indicator: Verbljfsduur van patiënten op de spoedgevallendienst > 6 uur, maar <= 8 uur en ontslag naar huis | 31/12/05 Spoed voorlopig voor onbepaalde duur |
| 01/01/06 - | | | 8.1.4.2. Indicator: Verbljfsduur van patiënten op de spoedgevallendienst > 6 uur, maar <= 8 uur en gevolgd door een opname in het ziekenhuis | 31/12/05 Spoed voorlopig voor onbepaalde duur |
| 01/01/06 - | | | 8.1.4.3. Indicator: Verbljfsduur van patiënten op de spoedgevallendienst > 6 uur, maar <= 8 uur en transfer naar een ander ziekenhuis | 31/12/05 Spoed voorlopig voor onbepaalde duur |
| 01/01/06 - | | | 8.1.4.4. Indicator: Verbljfsduur van patiënten op de spoedgevallendienst > 6 uur, maar <= 8 uur en alle andere bestemmingen | 31/12/05 Spoed voorlopig voor onbepaalde duur |
| | | 8.1.5. Indicator: Verbljfsduur van patiënten op de spoedgevallendienst > 8 uur | | |
| 01/01/06 - | | | 8.1.5.1. Indicator: Verbljfsduur van patiënten op de spoedgevallendienst > 8 uur en ontslag naar huis | 31/12/05 Spoed voorlopig voor onbepaalde duur |
| 01/01/06 - | | | 8.1.5.2. Indicator: Verbljfsduur van patiënten op de spoedgevallendienst > 8 uur en gevolgd door een opname in het ziekenhuis | 31/12/05 Spoed voorlopig voor onbepaalde duur |
| 01/01/06 - | | | 8.1.5.3. Indicator: Verbljfsduur van patiënten op de spoedgevallendienst > 8 uur en transfer naar een ander ziekenhuis | 31/12/05 Spoed voorlopig voor onbepaalde duur |
| 01/01/06 - | | | 8.1.5.4. Indicator: Verbljfsduur van patiënten op de spoedgevallendienst > 8 uur en alle andere bestemmingen | 31/12/05 Spoed voorlopig voor onbepaalde duur |
| | 9. Domein: Zorg aan patiënten in dagbehandeling | | | |
| | 9.1. Deeldomein: Ongeplande opname in het ziekenhuis na dagbehandeling | | | |
| 01/01/05 - | | | 9.1.1. Indicator: Totaal aantal ongeplande opnames in het | 07/02/05 SKZ voorlopig |

| Registratie periode | Deel domein | Indicator | Selectie |
|---------------------|---|---|---|
| 01/01/05 - | | ziekenhuis na dagbehandeling | voor onbepaalde duur |
| 01/01/05 - | | 9.1.1.2. Indicator: Ongeplande opname na een geplande heekkundige ingreep in dagbehandeling | 07/02/05 SKZ voorlopig voor onbepaalde duur |
| | | 9.1.1.3. Indicator: Ongeplande opname na chemotherapie/ na RT in dagbehandeling | 07/02/05 SKZ voorlopig voor onbepaalde duur |
| | 9.2. Deel domein: annulering van een geplande dagbehandeling op de dag zelf | | |
| 01/04/06 - | | 9.2.2. Indicator: Annulering van een heekkundige ingreep gepland in het chirurgisch dagziekenhuis | 31/03/06 DH voorlopig voor onbepaalde duur |
| 01/04/06 - | | 9.2.2.1. Indicator: Annulering van een heekkundige ingreep gepland in het chirurgisch dagziekenhuis – op initiatief van de patiënt | 31/03/06 DH voorlopig voor onbepaalde duur |
| 01/04/06 - | | 9.2.2.2. Indicator: Annulering van een heekkundige ingreep gepland in het chirurgisch dagziekenhuis – op initiatief van de arts of van het ziekenhuis | 31/03/06 DH voorlopig voor onbepaalde duur |
| 01/04/06 - | | 9.2.3. Indicator: Annulering van een chemotherapie/radiotherapie sessie gepland in dagbehandeling op initiatief van de patiënt | 31/03/06 DH voorlopig voor onbepaalde duur |
| 01/04/06 - | | 9.2.3.1. Indicator: Annulering van een chemotherapie/radiotherapie sessie gepland in dagbehandeling – op initiatief van de patiënt | 31/03/06 DH voorlopig voor onbepaalde duur |
| 01/04/06 - | | 9.2.3.2. Indicator: Annulering van een chemotherapie/radiotherapie sessie gepland in dagbehandeling – op initiatief van de patiënt of het ziekenhuis | 31/03/06 DH voorlopig voor onbepaalde duur |
| | 9.4. Deel domein: Wachtijd tussen de inschrijving en de start van de voorbereiding voor de heekkundige ingreep in het chirurgisch dagziekenhuis | | |
| 01/04/06 - | | 9.4.1. Indicator: Wachtijd tussen de inschrijving en de start van de voorbereiding voor de heekkundige ingreep van <= 30 min | 31/03/06 DH voorlopig voor onbepaalde duur |
| 01/04/06 - | | 9.4.2. Indicator: Wachtijd tussen de inschrijving en de start van de voorbereiding voor de heekkundige ingreep van > 30min – <= 1 u | 31/03/06 DH voorlopig voor onbepaalde duur |
| 01/04/06 - | | 9.4.3. Indicator: Wachtijd tussen de inschrijving en de start van de voorbereiding voor de heekkundige ingreep van > 1u - <= 2 u | 31/03/06 DH voorlopig voor onbepaalde duur |
| 01/04/06 - | | 9.4.4. Indicator: Wachtijd tussen de inschrijving en de start van de voorbereiding voor de heekkundige ingreep van > 2u | 31/03/06 DH voorlopig voor onbepaalde duur |
| | 9.5. Deel domein: Wachtijd tussen de | | |

| Registratie periode | Domein | Deeldomein | Indicator | Selectie |
|-------------------------------|--------|--|--|---|
| 01/04/06 - | | inschrijving en het vertrek naar het operatiekwartier in het chirurgisch dagziekenhuis | 9.5.1. Indicator: Wachtijd tussen de inschrijving en het vertrek naar het operatiekwartier van ≤ 30 min | 31/03/06 DH voorlopig voor onbepaalde duur |
| 01/04/06 - | | | 9.5.2. Indicator: Wachtijd tussen de inschrijving en het vertrek naar het operatiekwartier van > 30 min - ≤ 1 u | 31/03/06 DH voorlopig voor onbepaalde duur |
| 01/04/06 - | | | 9.5.3. Indicator: Wachtijd tussen de inschrijving en het vertrek naar het operatiekwartier van > 1 u - ≤ 2 u | 31/03/06 DH voorlopig voor onbepaalde duur |
| 01/04/06 - | | | 9.5.4. Indicator: Wachtijd tussen de inschrijving en het vertrek naar het operatiekwartier van > 2 u | 31/03/06 DH voorlopig voor onbepaalde duur |
| 01/04/06 - | | 9.8. Deeldomein: Wachtijd tussen de start van de voorbereiding voor de heekkundige ingreep en het vertrek naar het operatiekwartier in het chirurgisch dagziekenhuis | 9.8.1. Indicator: Wachtijd tussen de start van de voorbereiding voor de heekkundige ingreep en het vertrek naar het operatiekwartier van ≤ 30 min | 31/03/06 DH voorlopig voor onbepaalde duur |
| 01/04/06 - | | | 9.8.2. Indicator: Wachtijd tussen de start van de voorbereiding voor de heekkundige ingreep en het vertrek naar het operatiekwartier van > 30 min - ≤ 1 u | 31/03/06 DH voorlopig voor onbepaalde duur |
| 01/04/06 - | | | 9.8.3. Indicator: Wachtijd tussen de start van de voorbereiding voor de heekkundige ingreep en het vertrek naar het operatiekwartier van > 1 u - ≤ 2 u | 31/03/06 DH voorlopig voor onbepaalde duur |
| 01/04/06 - | | | 9.8.4. Indicator: Wachtijd tussen de start van de voorbereiding voor de heekkundige ingreep en het vertrek naar het operatiekwartier van > 2 u | 31/03/06 DH voorlopig voor onbepaalde duur |
| 11. Domein: Infecties | | | | |
| 11.1. Deeldomein: MRSA | | | | |
| 01/04/05 - | | | 11.1.1. Indicator: Resistentiecijfer van S. aureus | 01/04/05 SKZ voorlopig voor onbepaalde duur |
| 01/04/05 - | | | 11.1.2. Indicator: Incidentie van in het ziekenhuis verworven MRSA | 01/04/05 SKZ voorlopig voor onbepaalde duur |
| 01/04/05 - | | | 11.1.3. Indicator: Incidentiedensiteit van in het ziekenhuis verworven MRSA | 01/04/05 SKZ voorlopig voor onbepaalde duur |
| 01/04/05 - | | | 11.1.4. Indicator: Verhouding van in het ziekenhuis verworven MRSA tov totale MRSA in het ziekenhuis | 01/04/05 SKZ voorlopig voor onbepaalde duur |
| 11.5. Deeldomein: Handhygiëne | | | | |

| Registratie periode | Domein | Deeldomein | Indicator | Selectie |
|----------------------------------|--------|------------|---|---|
| 01/01/05 – 30/09/05 ; 01/01/06 - | | | 11.5.1. Indicator: Gebruik van handalcohol voor handhygiëne | 07/02/05 SKZ voorlopig voor onbepaalde duur |
| | | | | |
| | | | | |
| | | | | |

Appendix 2: Delta's statements concerning patients' experience

FACULTEIT GENEESKUNDE
CENTRUM VOOR ZIEKENHUIS- EN VERPLEGINGSWETENSCHAP
KAPUCIJNENVOER 36/4
B-3000 LEUVEN

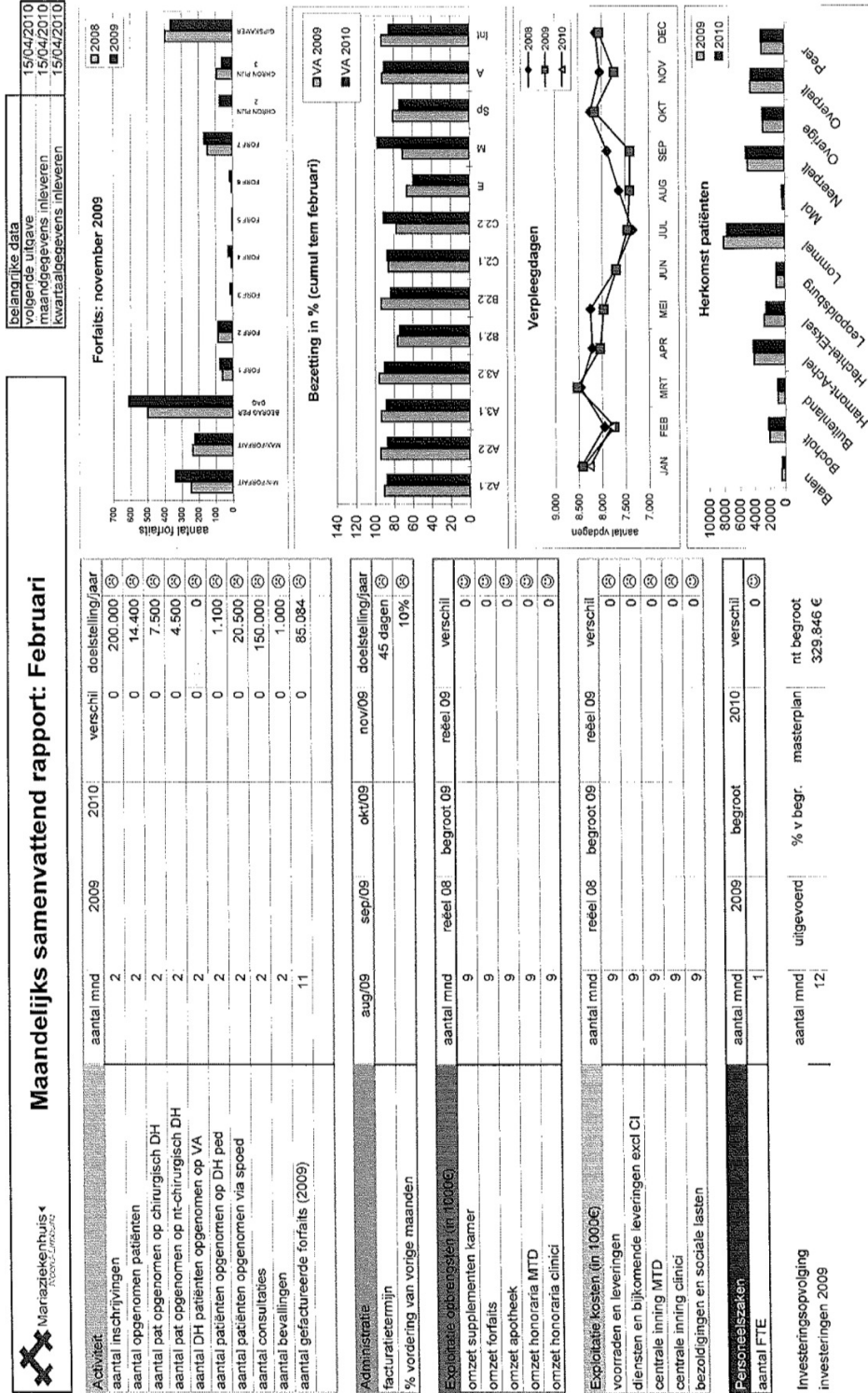


Meetinstrument Patiënten algemeen ziekenhuis

1. Ik werd bij opname in het ziekenhuis vlot geholpen
2. Ik kreeg bij opname in het ziekenhuis nuttige informatie over mijn verblijf
3. Ik kreeg bij opname in het ziekenhuis nuttige informatie over de kosten van mijn verblijf
4. Ik werd bij opname in het ziekenhuis respectvol onthaald door het personeel
5. Ik werd vlot geholpen op de spoedgevallenafdeling
6. Het personeel van de spoedgevallenafdeling behandelde mij respectvol
7. In de onthaalbrochure vond ik nuttige informatie
8. Ik werd duidelijk verwacht op de afdeling waarop ik verbleef
9. De samenwerking tussen artsen en verpleegkundigen was goed
10. Artsen en verpleegkundigen gaven mij eenduidige informatie
11. De artsen waren bekommerd om de pijn die ik had
12. Ik werd aangemoedigd om actief mee te werken aan mijn herstel
13. De medische zorg was goed
14. De artsen gingen respectvol met mij om
15. Als ik een arts nodig had was die snel bereikbaar
16. De artsen gaven mij spontaan nuttige informatie
17. Als ik informatie nodig had van een arts kreeg ik die snel
18. Als familieleden een arts wilden spreken, was die snel bereikbaar
19. Ik wist wanneer de arts bij mij langs kwam
20. De verpleegkundige zorg was goed
21. De verpleegkundigen gingen respectvol met mij om
22. De verpleegkundigen gaven mij spontaan nuttige informatie
23. De verpleegkundigen waren bekommerd om de pijn die ik had
24. Ik had voldoende inspraak in mijn behandeling
25. Ik kon gemakkelijk aan de bedbel
26. Verpleegkundigen reageerden snel als ik belde
27. De zorg van de kinesisten was goed
28. De sociale dienst bood goede dienstverlening
29. Indien gewenst was een vertegenwoordiger van mijn godsdienst of levensbeschouwing snel bereikbaar
30. Het personeel van de dienst 'radiologie' behandelde mij respectvol
31. Het personeel van de dienst 'intensieve zorgen' behandelde mij respectvol
32. Het personeel van het operatiekwartier behandelde mij respectvol
33. Ik kreeg nuttige informatie op de dienst 'radiologie'
34. Ik kreeg nuttige informatie op de dienst 'intensieve zorgen'

35. Mijn familie kreeg nuttige informatie op de dienst 'intensieve zorgen'
36. Ik kreeg nuttige informatie in het operatiekwartier
37. Het eten was lekker
38. Ik kreeg de maaltijden die ik had gekozen
39. Ik kreeg nuttige informatie over mijn dieet
40. Het eten dat ik kreeg stemde overeen met mijn dieet
41. Mijn kamer viel goed mee
42. Mijn kamer werd goed onderhouden
43. Het onderhoudspersoneel ging respectvol met mij om
44. Herstellingen op de kamer werden vlug uitgevoerd
45. De bezoekerregeling was goed
46. Het was voldoende stil in het ziekenhuis
47. Ik werd tijdig op de hoogte gesteld van het moment waarop ik zou worden ontslagen uit het ziekenhuis
48. Ik kreeg tijdens mijn verblijf nuttige informatie over de zorg die ik nog nodig zal hebben na ontslag uit het ziekenhuis
49. Ik kreeg bij ontslag uit het ziekenhuis nuttige informatie over de rekening
50. Ik zou dit ziekenhuis aanbevelen aan vrienden indien zij ziekenhuiszorg zouden nodig hebben

Appendix 3: MZNL's monthly summarized financial report



Appendix 4: Delta's statements concerning employees' experience

FACULTEIT GENEESKUNDE
CENTRUM VOOR ZIEKENHUIS- EN VERPLEGINGSWETENSCHAP
KAPUCIJNENVOER 35/4
B-3000 LEUVEN



Meetinstrument Medewerkers

1. De missie van de organisatie is duidelijk
2. De organisatie zet zich in voor een goede dienstverlening aan de patiënten/ de bewoners
3. De directie is bekwaam in leiding geven
4. De directie is open over de beslissingen die ze neemt
5. De directie weet wat er leeft in de organisatie
6. De directie is mijn vertrouwen waard
7. Mijn departementshoofd is bekwaam in leiding geven
8. Mijn departementshoofd is open over de beslissingen die hij/zij neemt
9. Mijn departementshoofd weet wat er leeft binnen zijn/haar departement
10. Mijn departementshoofd is mijn vertrouwen waard
11. Mijn zorgmanager is bekwaam in leiding geven
12. Mijn zorgmanager is open over de beslissingen die hij/ zij neemt
13. Mijn zorgmanager weet wat er leeft in de organisatie
14. Mijn zorgmanager is mijn vertrouwen waard
15. Mijn diensthoofd is bekwaam in leiding geven
16. Mijn diensthoofd is open over de beslissingen die hij/ zij neemt
17. Mijn diensthoofd weet wat er leeft op zijn/haar dienst
18. Mijn diensthoofd is mijn vertrouwen waard
19. Mijn directe chef is bekwaam in leiding geven
20. Mijn directe chef is open over de beslissingen die hij/zij neemt
21. Mijn directe chef weet wat er leeft op zijn/haar afdeling (dienst)
22. Mijn directe chef is mijn vertrouwen waard
23. Mijn directe chef is goed bereikbaar
24. Mijn directe chef komt afspraken na
25. Mijn directe chef steunt mij bij mijn werk
26. Mijn directe chef informeert mij duidelijk over ontwikkelingen op de afdeling (dienst)
27. Mijn directe chef komt op voor zijn/haar medewerkers
28. Mijn directe chef draagt bij tot een goede sfeer op mijn afdeling (dienst)
29. Mijn directe chef is eerlijk bij de beoordeling van mijn prestaties
30. Mijn afdeling (dienst) heeft duidelijke doelstellingen
31. De taakverdeling op mijn afdeling (dienst) is duidelijk
32. De juiste medewerker staat op de juiste plaats
33. De werkprocedures op mijn afdeling (dienst) zijn duidelijk vastgelegd
34. Afspraken op mijn afdeling (dienst) zijn goed doordacht

35. Afspraken op mijn afdeling (dienst) worden goed nageleefd
36. De collega's van mijn afdeling (dienst) zijn kritisch over hun werk
37. Op mijn afdeling (dienst) werken wij als een team
38. Er is voldoende werkoverleg op mijn afdeling (dienst)
39. De afdelings- (dienst)vergaderingen zijn nuttige overlegmomenten
40. De teamleden van mijn afdeling (dienst) communiceren goed met mekaar
41. De samenwerking met de artsen is goed
42. Zo nodig leveren collega's op mijn afdeling (dienst) extra inspanningen
43. De teamleden van mijn afdeling (dienst) zijn mijn vertrouwen waard
44. De sfeer op mijn afdeling (dienst) is goed
45. Conflicten op mijn afdeling (dienst) worden goed uitgepraat
46. Het is proper op mijn afdeling (dienst)
47. Het werk van mijn afdeling (dienst) wordt voldoende gewaardeerd
48. Ik krijg nuttige informatie over de resultaten van de werking van mijn afdeling (dienst)
49. Goede resultaten op de afdeling (dienst) worden voldoende erkend
50. De evaluatiegesprekken zijn zinvol
51. De functioneringsgesprekken zijn zinvol
52. Wijzigingen in mijn dienstrooster worden tijdig gemeld
53. Vervanging bij afwezigheid wordt correct aangepakt
54. Er wordt voldoende rekening gehouden met mijn vakantiewensen
55. Ik heb voldoende tijd om mijn werk goed te doen
56. Ik heb voldoende invloed op mijn eigen werkdruk
57. Ik krijg voldoende verantwoordelijkheid
58. Mijn werk biedt voldoende afwisseling
59. Ik heb voldoende mogelijkheden om stress te ventileren
60. Na een ingrijpende emotionele gebeurtenis is er gepaste opvang
61. Ik heb voldoende kansen om mij persoonlijk te ontplooiën
62. Ik heb voldoende opleidingsmogelijkheden
63. Ik word voldoende gewaardeerd als medewerker
64. Ik heb voldoende inspraak in de evaluatie van mijn werk
65. Ik word voldoende gewaardeerd door de patiënten/de bewoners
66. Ik word voldoende gewaardeerd door mijn collega's
67. De ontwikkeling van nieuwe ideeën wordt voldoende gewaardeerd
68. Medewerkers krijgen een nieuwe kans na het maken van een fout
69. Ik heb voldoende materiële hulpmiddelen om mijn werk goed te doen
70. De ruimtelijke schikking helpt mij om mijn werk goed uit te oefenen
71. Het materiaal wordt goed onderhouden

72. Wij gaan respectvol om met het materiaal
73. Ik voel mij betrokken bij mijn afdeling (dienst)
74. De taakverdeling tussen de afdelingen (diensten) is duidelijk
75. De samenwerking met de collega's van de andere afdelingen (diensten) is goed
76. De organisatie zorgt voor een veilige werkomgeving
77. De organisatie heeft voldoende aandacht voor de combinatie werk-gezin
78. De organisatie heeft voldoende aandacht voor het milieu
79. De sfeer in de organisatie is goed
80. De verloning is eerlijk
81. Onregelmatige werkuren worden voldoende gecompenseerd
82. Er is een goed pakket extra-legale voordelen
83. De organisatie biedt voldoende werkzekerheid
84. Ik ben fier op mijn werk
85. Ik zou vrienden aanraden om hier te komen werken

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Mariaziekenhuis Noord-Limburg**

Richting: **Master of Management**

Jaar: **2010**

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Voor akkoord,

Vandersteegen, Tom

Datum: **14/06/2010**