

# Hospital Management in a Partly Competitive Environment

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*'The greatest danger in times of turbulence is not the turbulence, it's to act with yesterday's logic'.*

-Peter Drucker

## Abstract

This study investigates the relevant planning & control components for hospitals' management while the Dutch Healthcare sector is in the transition from not-for profit to (regulated) market competition. For this purpose a conceptual framework focussing on management based on integral results is developed. Subsequently, this model is tested through interviews and meetings with hospitals and other experts in the field. The results indicated that the model principally holds in the selected settings. However, innovative and appropriate components or critical success factors could not be found, suggesting that this thesis, relating to current practice, might still be one bridge too far.

For the full text of this master thesis refer to the following webpage:  
<http://hdl.handle.net/2105/5672>.

## 1. Introduction

### 1.1 Background

The Dutch healthcare sector has been under reform for several years. The sector is faced with some drastic political and economical reviewing charged by the Dutch government. The purpose of the significant system reform is to gradually implementing market competition concerning healthcare institutions. It is expected that market competition will decrease the costs associated with the healthcare sector concerning the society as a whole.

These reforms are corresponding with fundamental changes regarding financing, budgeting and reimbursement within the Dutch healthcare sector. However, the most significant change the sector has to deal with is the transition process from a supply to a demand driven market system by the governmental introduction of managed competition by means

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of a performance-based finance system (Oostenbrink & Rutten, 2006:5). From an international perspective, performance-based finance systems have already demonstrated their value (Cardinaels & Smith, 2005). Concerning the cure sector (hospitals and medical specialists) the tool to realize demand-driven and performance-based products and services are Diagnosis Treatment Combinations (hereafter: DBCs).

DBC-products can be defined as: the whole set of activities and interventions of the hospital and medical specialist resulting from the first consultation and diagnosis of the medical specialists in the hospital (DBC-maintenance institute, 2009). The new DBC system will replace the current budgeting system, whereby every health care supplier was ensured concerning at least a part of its profits.

Although, the new system does not have the objective to alter former social positions of the different institutions involved (Zuurbier & Steinbusch, 2005:3), traditionally non-profit oriented hospitals are confronted with a profit motive in order to survive and continuing their business. The development of an increasing free-market structure concerning the cure sector has lead towards a strong increase in organizations' risk profiles (PwC, 2008).

## **1.2 Research objective and problem statement**

The aforementioned risks associated with the new system will affect the overall objective of Dutch hospitals, which could be described as guaranteeing the continuity of healthcare. Hospitals are already confronted with increased pressure on their financial means and it is even possible that they will fall into bankruptcy. Hence, in order to achieve better financial performance and ultimately accomplishing their social mission, hospitals with a negative result from operations or a negative equity capital may need another management model concerning controlling their operational and financial performance. The research objective of this thesis is to identify the planning & control components concerning successfully managing results. Therefore the main question to be answered is:

***Which planning & control components are relevant concerning managing results of Dutch hospitals within the DBC-structure?***

Since financial continuity of an entity is the core value, managing financial risks remains crucial (Knechel, 2006). In addition, Paterson & Wendel (1996) state that business and financial risks should be closely monitored, if budgeting and reimbursement systems within the healthcare sector are altered. Nevertheless, the term hospital results cover more subjects (e.g. care quality) that will also be part of consideration.

## **1.3 Outline**

This article proceeds as follows. Chapter 2 describes relevant institutional settings and prior literature, resulting in a conceptual framework. Chapter 3 elaborates on the research design and methodologies applied. The results are presented in chapter 4. Based on the presented empirical results, analysis is performed in chapter 5. Finally, chapter 6 stipulates the conclusions of this paper and note some suggestions for future research.

## 2. Hospital financing and prior research

### 2.1 Hospital financing

In the Dutch situation, hospitals are principally financed by the health insurers. Introduced in 1988, the Functional Budgeting (FB) system was supply-oriented and regulated. Due to inequalities of historical budgeting, the system's main goal was to realize a justified allocation mechanism concerning the available means (Lapr e et al., 2001). Within the FB-system, the hospital's budget is determined through four components (figure 1).

Component	Cost-category	Budget parameters	Determination parameter's scale
Availability	Fixed	# adherence population	Determined through policy guidelines and admission orders
Capacity	Semi-fixed	# medical specialists # beds	
Infrastructure	Location dependent	depreciation interest capital costs	
Production	Variable	# consulting hours # hospitalizations # bed days # outpatient visits # special functions	Production agreements between hospitals and insurance companies

Figure 1: Composition FB-Budget (Source: Schaepkens, 2004:6; Lapr e et al., 2001:55)

Generally, the FB-system was principally aimed to control expenditures and incentives to increase production or quality of care were almost absent (Oostenbrink & Rutten, 2005:4). Since the demand of care is growing, the system has lead towards increasing waiting lists (Asselman, 2008). In the system, the hospitals production function is valued at the actual production level through subsequent calculation. This development slightly introduced performance-based financing, but only focussing on the variable part of the FB-budget (VWS, 2005). Because only a particular part of the delivered services was involved in the hospital's budget, the causal relationship between the reimbursement and the delivered services by the hospital belonging to particular clinical pathway was mainly absent. The lack of understanding of cost prices belonging to delivered services hindered management control regarding revenues and results. Hence, the need for a new performance-based finance system was born. And as of 2005, the DBC system was implemented in the Dutch cure sector.

The DBC-system can be considered as the tool concerning gradually implementing market competition. The chief aim of competition forces is to establish an aligned financing structure for hospitals and medical specialists based on the delivered services and the

associated costs. These delivered services are recorded and subsequently billed to the health insurers by means of DBCs. The system is aimed to generate a 'fee-for-service' model (Zuurbier & Steinbusch, 2005:3). However, due to the system's distinction in DBCs with fixed prices (A-segment) and freely negotiable prices (B-segment), currently the system is between a case-payment model situation and the fee-for-service model situation. The A-segment contains DBCs belonging to heterogeneous care products (e.g. top clinical care) that are faced with too much market inefficiencies and hence market competition will not fit. Since only DBCs are billed by the hospital, the distinction does not make sense with respect to the recording and the billing processes. The distinction is relevant recognizing hospitals' revenues.

DBC's belonging to the A-segment have fixed prices set by the Dutch Healthcare market authority (hereafter: NZa). Those prices are based on the parameters belonging to the former FB-system. Within the B-segment production level, price and quality of delivered services are the result from a negotiating process between the hospitals and the health insurers. Within this segment, hospitals' total revenues (34% in 2009) are the number of recorded and billed DBCs (Q) multiplied by the agreed price (P). That way market competition is introduced to the cure market and hence hospitals are principally faced with financial risks regarding their production within the B-segment. From an international perspective, it appears that financial risks will also cause social risks (Beaver et al., 1998).

In order to conclude feasible contracts with health insurers, hospitals should understand the revenues and cost prices associated with their product mix (total amount of all types of DBCs). Within this scope, cost accounting could serve as a tool to facilitate the negotiation process between hospital and its stakeholders with different interests involved (Zuurbier & Steinbusch, 2005:2).

Since the DBC-system facilitates cost-price accounting, it is expected that the system cause incentives to decrease hospitals' costs. Prior condition concerning allocating costs from cost-headings to cost-units is the existence of a causal relationship between them (NZa, 2006). However, in hospitals, this relationship is frequently far from clear and hence hospitals have difficulties in employing cost-accounting (Asselman, 2008). This development leads to unrefined cost categorizations and the supposed cost-homogeneity and causal relationship between the various cost centres is mainly absent. Once the distinction between fixed and variable costs is understandable, cost-price fluctuations, due to under- or overproduction, are explained in terms of marginal costs. Subsequently, these insights can be employed concerning investment and make-or-buy decisions.

The cost-accounting directive of the NZa together with the increasing competitive environment hospitals are acting in requires the use of other cost-drivers like 'activity' in the ABC-method and other modern cost-accounting techniques. From an international perspective it has been proved that the ABC-approach provides relatively better material concerning price setting strategies and hence quality issues and demand-driven management within hospitals (Ross, 2004). However, the lack of experience with advanced cost-accounting techniques within hospitals had led to a relatively easy to maintain and understandable production centre approach in many cases.

Adjacent to this, cost-accounting concerning A-segment DBC products is principally based on the FB-system, while these DBCs are already recorded and billed in terms of DBCs. As a result double accounting processes are employed.

Since the introduction of the DBC-system involves a new method of hospital financing, it might have several consequences concerning hospitals' financial accounts. Especially on the short term, several risks can be identified (Asselman, 2008, Cardinaels & Smith, 2005).

#### **1. Turnover risk**

Due to gradually abolishing the FB-system, differences between hospitals' defrayment and reimbursement will no longer exist. Since hospitals have to negotiate with the health insurers about their production, they are faced with an increased risk regarding their total revenues.

#### **2. Financial margin risk**

Since cross-subsidisation possibilities are reduced due to increasing output financing of some hospitals' key-tasks (e.g. teaching status) and the increasing supervision of the market authority, through negotiation possibilities, the financial margins of hospitals will increase. Opposite, financial margins are shrinking.

#### **3. Liquidity risk**

Since during the transition phase DBCs can only be billed after they are closed (frequently after one year since the patient's first consult in the hospital) this is an inherent risk of the system. Besides, failures due to untimely, incorrect and incomplete recording of DBCs are also relevant.

#### **4. Credit risk**

The DBC-system involves the abolishment of health insurers' obligation to conclude contracts with hospitals and hence prospective payments will no longer exist. Consequently, health insurers may not reimburse treatment costs exceeding a (pre-determined) level and the patient may not afford those costs.

#### **5. Information-asymmetry risk**

Since the system is supposed to provide a detailed registration of information, over 30.000 different DBC-products are identified. Concerning this amount of products, it is difficult to establish (cost) forecasting and the account 'works in progress' will increase. Hence, the information asymmetry between the hospital's management and external parties will increase, resulting in higher risk assessments by those parties.

In order to deal with all those risks hospitals have to alter and adapt their management structures. This will be elaborated in the next paragraph.

## **2.2 Management structures**

Keuning & Eppink (1996:9) define managing as: those actions that set people within an organisation into work and subsequently control their behaviour to fulfil the organisations objectives.

Simplified, managing is the act of getting people together to accomplish desired pre-determined goals. Within this scope, management comprises a process, which consists of key-elements often classified as: (1) planning, (2) organizing, (3) staffing, (4) leading (5) controlling and (6) motivating (Keuning & Eppink, 1996:15). Based on those core values of

managing, Keuning & Eppink (1996:16) distinguish three principal management functions: (1) strategic management, (2) establishing an organisational structure and (3) controlling the entity's business processes (operational management).

Since market competition is gradually implemented within the care sector and consequently financing systems are altered, hospitals are faced with increased risk profiles (chapter 1). Hence, managing risks by hospitals' management can be considered as 'risk management'.

From a business enterprise perspective, Knechel (2006:29) defines risk as a threat that reduces the likelihood that the organisation one or more of its objectives will achieve. Within this scope, management is aimed at identifying and quantifying these risks. Adjacent to this risk management involves the implementation of control measures. Control activities refer to any actions taken by a company or individual to reduce the likelihood or significance of risk (Knechel, 2006:32). The whole set of these control activities is known as internal control. The effectiveness of an internal control measure is determined by the ability of a control measure to provide a reliable and timely warning of potential problems and to the potential bias inherent in the execution of a control measure (Knechel, 2006:32). Kocken (1997:226) identify two primary objectives of corporate risk management. On the one hand, future revenues have to be maximized, while at the other hand liquidity risks should be minimized.

Due to limited attention to risk management within the healthcare sector, a connection with other professions has to be made. From international accounting and other business literature, several useful concepts and frameworks are provided.

In order to ensure that risks are addressed by higher management and the board of directors, organisations are adopting ERM as a formal process that affects all levels of an organisation (Knechel, 2006:29). A common-used framework concerning ERM is issued by COSO (2004), which includes the following definition of ERM:

*A process, enacted by an entity's board of directors, management, and other personnel, applied in a strategy setting and across the enterprise, designed to identify potential events that may affect the entity, to manage risks to be within its risk appetite, and to provide reasonable assurance regarding the achievement of entity objectives (COSO, 2004:7).*

The three-dimensional COSO ERM cube builds on the former one, but also emphasizes the importance of identifying and managing risks across the enterprise. ERM is an iterative, continuous process that involves identifying, assessing, and managing key risks that threaten an organisation's strategic, operational, compliance and reporting objectives at all levels of an organisation (Knechel, 2006:30). Summarized, the cube identifies four organisational objectives, four organisational levels and eight components. Based on this framework, 128 (4 x 4 x 8) strategies of risk management are possible.

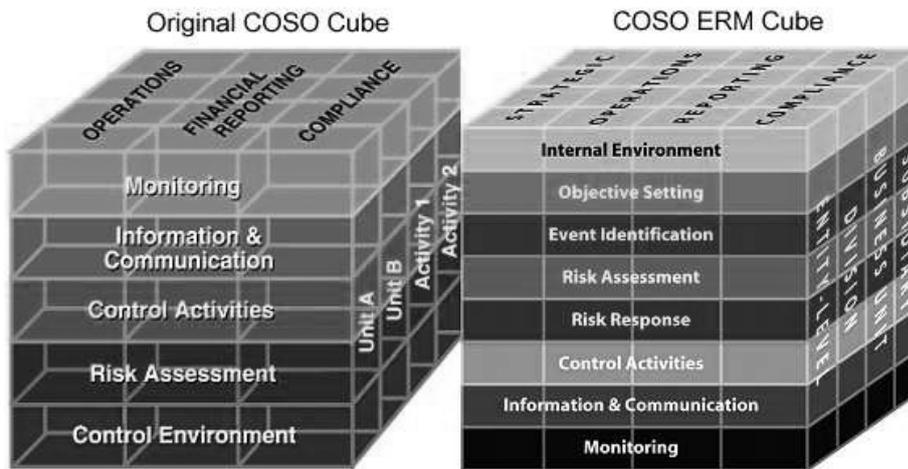


Figure 2: COSO cubes (source: COSO, 2004).

Although all the signalled components are relevant, since it lays the foundation concerning the other elements, the internal environment is critical. With respect to this internal environment, also hospitals' management has to issue a so-called 'in control statement'. A disadvantage of the framework is that it only provides reasonable assurance regarding the 'in control status' of a particular entity. Besides, control is inherently limited by the quality and integrity of people working within the organisation. Lastly, the model is extensively and hence requires much effort regarding implementation by a given hospital. Despite inherent limitations, the basic assumptions of this model regarding control and risk management are commonly used in accounting literature.

### 2.3 Managing hospitals

In the literature, frequently a distinction is made between internal and external management & control. External management comprises possibilities to control the environment outside the entity. Since hospitals are forced to negotiate with health insurers about their production prices, the enhancing B-segment emphasize external control (Asselman, 2008:23).

Since the cure sector is faced with the implementation of market competition and broad range of laws and regulations, concerning hospitals, market forces and macro-economic developments are important controlling the external environment. In order to determine the relevant aspects Knechel (2006) use different models from 'strategic management' literature. A useful model determining market forces is the 'Five Forces Model' of Porter (Porter, 1980; Simons, 1995). Macro-economic developments are analyzed by the PEST-factors developed by Johnson et al. (2006:65-68). The five forces (rectangles) and the macro-economic developments (rings) are together presented in figure 3.

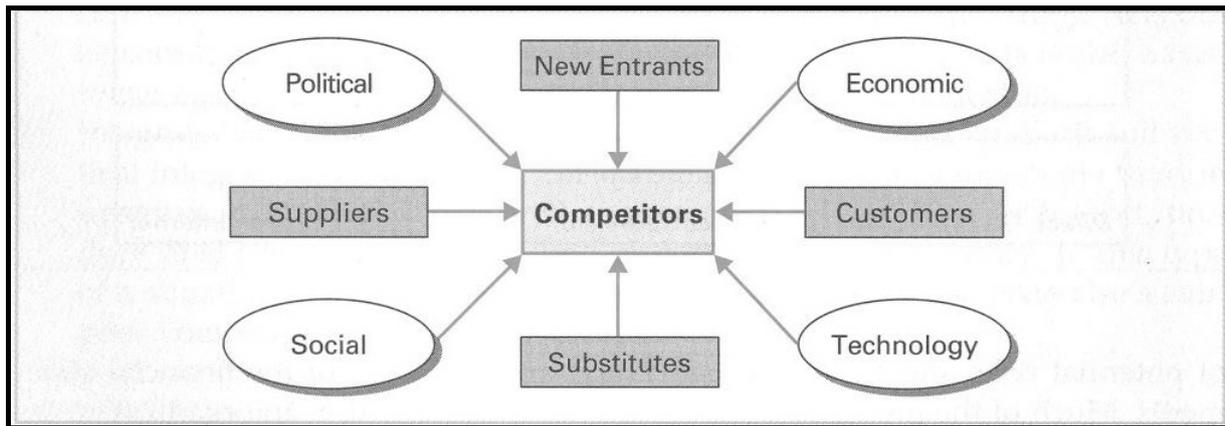


Figure 3: external risk factors (source: Knechel, 2006:162)

The Five Forces-model enables a hospital as ‘competitor’ to determine the scale and nature of its competitors and hence its strategic objectives. In general, the hospital’s strategy has to be determined by the hospital’s management in consultation with their medical specialists (Peeters & Krabbe, 2004:42). Therefore, alignment concerning the strategy between those groups is crucial and makes the situation as a whole relatively complex. Strategic objective setting and risk-assessments are also considered as key-elements within the COSO ERM-framework.

Most external factors, risks and choices have a predictable link to activities within the organisation determining its success (Knechel, 2006:175). Those activities can be classified into three central themes: (1) financing, (2) performance and (3) quality of care. Hence, an integral hospital management approach functions as a road map concerning the distributing responsibilities and tasks to all medical specialists and other departments, identifying critical performance indicators (PIs) and addressing tasks and accountability to all different levels within the hospital.

The implementation of the DBC-system and associated integral prices requires an integral approach with respect to costs and revenues. Managing the performance of the product mix or hospital departments becomes relatively more important. A tool concerning managing the performance of particular hospital departments can be establishing result centres. Within the hospital environment, a result centre is not a shop within the shop, but it is accountable and is only a part of the hospital’s total performance. That way the results centres are aligned with the hospital’s strategy and objectives striving to a better level of cooperation and performance of the entire hospital.

Since the content of the term ‘result’ covers profit, production volume, quality, culture, innovation, education and customer satisfaction, a result centre is not only accountable concerning profits. Nevertheless, distributing costs and responsibilities remains difficult due to complex clinical pathways involving activities of several result centres. Within the hospital medical specialises and supportive specialises can be classified as result centres, whereas overhead and other staff departments can be classified as cost centres. Result centres should identify their patient groups by means of DBC-products and subsequently associate them with adequate cost-drivers within the hospital. Cost centres can charge their performances to result centres by means of easily parameters in terms of m<sup>2</sup> or FTEs.

The hospital's organisation structure in terms of result and costs centres affects the span of control and hence the hospital's management process. This process differs per performed activity, due to the different nature and scale of care activities.

Based on the previous paragraphs a conceptual model concerning managing hospital results has been developed (figure 4).

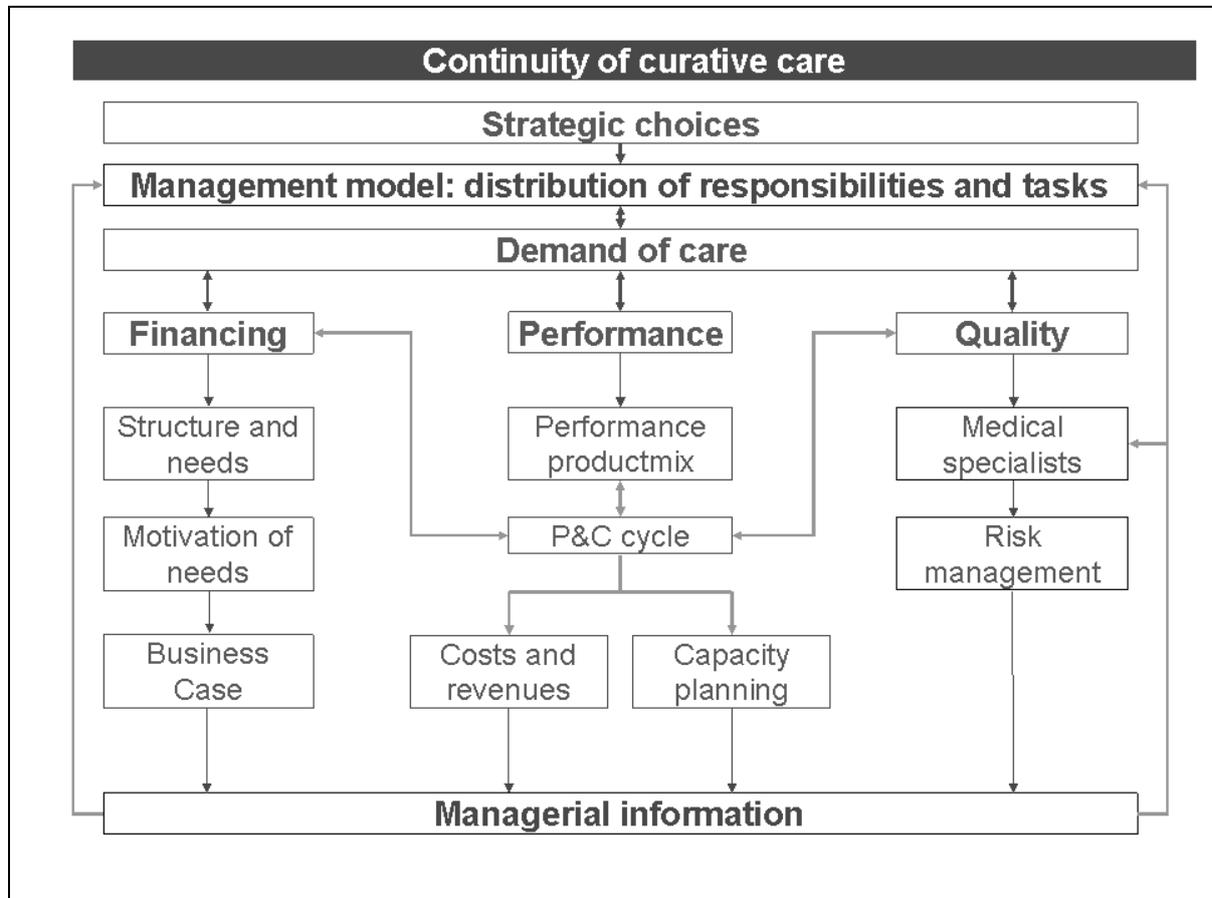


Figure 4: Conceptual hospital management model

In order to ensure that a hospital can manage its performance, an appropriate planning & control cycle should be implemented to control its business processes. In scientific literature, various definitions and approaches are presented about 'planning & control', which apply to organizations both within and outside the healthcare sector. Generally, the planning & control cycle comprises all decisions, structures and procedures aimed at effectively and efficiently realizing the pre-determined goals of an entity (Jans, 2001). Anthony and Young (1988:4) distinguish three different types of planning & control activities: (1) strategic planning, (2) management control and (3) task or operational control. Each activity involves both planning and control, but the emphasis varies with the type of activity and entity. In hospitals, controlling pharmacy inventory is much different from controlling patient care on the wards.

Idealized the internal control system is part of this management control process or cycle, which consists of four principal steps (1988:17):

- (1) Programming,
- (2) Budget formulation,
- (3) Operating and measurement and
- (4) Reporting and evaluation.

The two first steps could be considered as planning activities, while the two latter could be considered as typical control activities. These four principal steps together give shape to controlling the entity's business processes as an ongoing cycle. This planning & control cycle consists of a regulatory component (measurements implemented to mitigate threats regarding goal-congruence), a retrospective component (accountability and evaluating goal-congruence) and a prospective component (planning and decision making aimed at realizing settled objectives).

Concerning hospitals or other healthcare institutions, the cycle contains relatively more synchronization moments than concerning a private company. Synchronization moments are distinguished in longer term and shorter-term moments that are mutually influencing each other. The strategic plan developed by the hospital's board of directors and approved by the supervisory board incorporates the longer term, while the yearly budgeting process involves the shorter term.

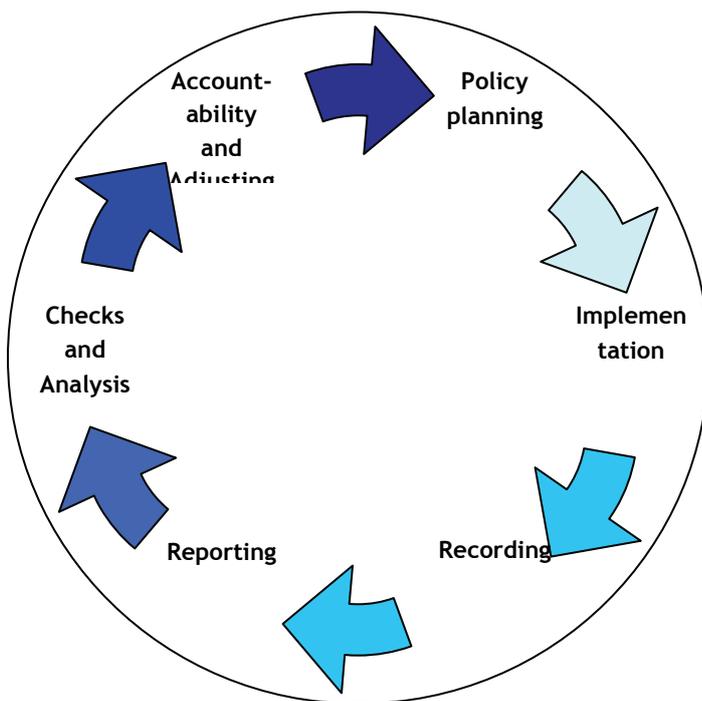


Figure 5: Planning & Control cycle in hospitals

### 3. Research design

#### 3.1 Structure

Since the research's objective is to identify and to define the appropriate planning & control aspects concerning managing results in Dutch hospitals, this research will apply to the methodology of a design-oriented and exploratory research.

According to Van Aken (1994), two different cycles (figure 6) are relevant within the scope of design-oriented research: the regulative cycle and the reflective cycle. The regulative cycle is designed to control concerning a unique or special problem (Van Aken, 1994:19). The reflective cycle is a tool to develop clinical knowledge, which contains knowledge about both problems and the used methods concerning solutions, all examined in a given context (Van Aken, 1994:21). In order to test and to generalize designed knowledge, multiple case studies are used within the reflective cycle.

This study focuses on the unique and specific problem of the gradually implementation of performance based financing and competition forces within the Dutch cure market. Since these developments will create financial risks to hospitals, by hospitals management it is necessary to anticipate effectively to these developments. In order to develop knowledge about the relevant planning & control aspects, it is justified to use the regulative and the reflective cycle concerning this research.

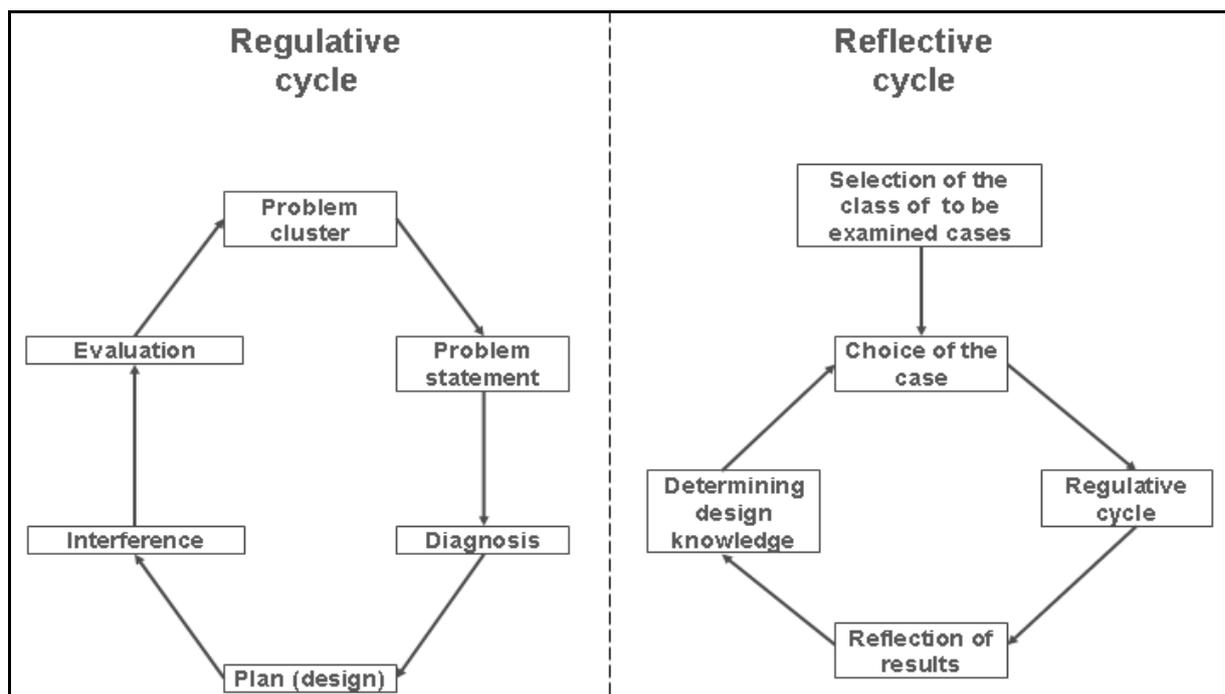


Figure 6: The regulative and reflective cycle (source: Van Aken, 1994)

## 3.2 Methods

### Literature study

In order to get sufficient insight into the background and context of the formulated problem, a literature study has been explored. Besides, the literature will serve as a base concerning the conceptual model framework presented in chapter 2.

### Case studies

In order to get a more comprehensive understanding of the subject, qualitative research is applied in the empirical part of this study. Qualitative research will enable the investigator to examine an actual subject in depth.

Which research method or strategy should be used, is determined by the following conditions: (1) the type of research question posed, (2) the extent of control an investigator has over actual behavioural events and (3) the degree of focus on contemporary as opposed to historical events (Yin, 2003:5). Within the scope of design-oriented research, a case study is an important research method. Yin (2003:13) defines a case study as: 'a case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident, which relies on multiple sources of evidence'.

Since the implementation of performance-based financing and market competition in the Dutch care sector concerns a contemporary phenomenon, concerning this study, case study research will be conducted. The before signalled developments will alter the (financial) environment Dutch hospitals are acting in. However, the degree to which these developments influence the environment and financial performance of Dutch hospitals is not clear. Currently the boundaries between the phenomenon and the context are not evident. By using interviews with the members of the hospital's board, planning & control managers and other experts by market authorities, data and information on the phenomenon will be gathered in a real-life context.

A primary distinction in conducting case studies is the choice between single case study design and multiple case study designs. Since analytical benefits and conclusions using two or more cases may be substantial and more powerful, in general, multiple case designs are preferred over single case design (Yin, 2003:53). In order to have possibilities to validate the findings, this study will employ multiple case study design (Van Aken, 1994:23). As figure 7 indicates, the case study is essential within the reflective cycle to generalize the acquired knowledge and results.

Bowling (2002:403) signals the possibility to employ the triangulation principle while conducting case studies. The triangulation principle implies that bias or systematic errors of acquired information are reduced because of (1) the applied research method, (2) the chosen research approach and (3) subjective observation by the researcher. Combination of several research methods and multiple case study design enables the researcher to analyse the unique research setting as a coherent and consistent group and to clarify the context of the identified problem.

### Consensus development panel

Before developing an appropriate model it will have a useful effect to judge planning & control aspects arising from theory or identified previously. Testing and judging the preliminary model will provide better insights into the targets, needs and assumptions the final model has to comply with.

In order to test and to judge the preliminary model, the method of 'consensus development panel' (Bowling, 2002:407) is explored in this study. The method involves organising a meeting with a panel of experts in the field of curative healthcare, brought together to discuss the specific research objective or developing a consensus. The meeting of the panel was attended by three advisors or consultants and the researcher.

### 3.3 Sample

In the Dutch situation, three different types of hospitals are primarily distinguished: academic hospitals, general hospitals and categorical hospitals. Consequently, general hospitals are classified once more into 'top clinical hospitals' and 'basic hospitals'.

Generally, all these different hospital types provide to a certain degree three core tasks: care in terms of medical treatments and nursing, research and education.

Each hospital type should react on the before signalled phenomena and hence all types are identified as case objects. Furthermore, each selected hospital is representative concerning the target population and hence no selection bias will occur. The chosen composition of case objects enables the researcher to use comparisons and formulate conclusions and expectations. In figure 7, a set of depersonalised key-data and prefixes corresponding to the selected hospitals are presented.

	Top-clinical hospital 1	Academic hospital 1	Categorical hospital 1	Top-clinical hospital 2	Categorical hospital 2	General hospital 1	General hospital 2	Academic hospital 2	General hospital 3
<b>FTEs</b>	2522	9011	1565	4059	360	1148	1320	6068	1122
<b>Number of clinical admissions</b>	27.228	38.555	6.587	44.334	1.036	17.427	16.911	25.254	12.376
<b>Day treatments</b>	23.169	36.784	4.701	44.464	13.338	14.555	14.294	29.063	1.312
<b>Revenues (x 1000)</b>	223.797	967.088	105.000	365.180	29.636	92.473	132.285	711.576	117.417
<b>Percentage of profit related to total revenues</b>	3,6%	2,2%	1,4%	2,8%	4,0%	-1,1%	-3,1%	1,0%	1,6%
<b>Percentage B-segment revenues related to revenues</b>	15,8%	3,2%	4,1%	14,2%	30%	21,3%	15,8%	3,1%	15,1%
<b>Location</b>	Zuid-Holland	Zuid-Holland	Noord-Holland	Overijssel	Zuid-Holland	Zuid-Holland	Zuid-Holland	Noord-Holland	Noord-Holland

Figure 7: Research sample

### 3.4 Reliability and validity

The reliability of this research refers to the reproducibility and the consistency of the employed methods (Bowling, 2002:147). The reproducibility and the consistency of the qualitative research methods is principally guaranteed by the triangulation principle applied to the data resources and through the judgement of the research findings by external assessors (Seegers, 2002). The reliability of this research is enhanced, by means of discussing the preliminary findings with the advisors of PwC and the hospitals involved. Validity is an assessment of whether an instrument or method measures what it aims to measure (Bowling, 2002:147). By means of exploring different methods concerning data sourcing the degree to which this research is internal valid has increased. Besides, acting in conformity with the triangulation principle reduces the possibility of informational systematic errors. External validity refers to the ability to generalize the research findings to a wider population of interest (Bowling, 2002:150). Although it can be questionable whether material generated through case studies can be generalized (Bowling, 2002), they are often undertaken with a view to an understanding of wider situations. Since the central problem statement of this research will apply to the whole care sector, this research also intends to obtain an general understanding. The quality of the study is determined by whether or not the presented model is applicable to a specific setting as well as to the entire sector. The last matter is embedded in this study through using the regulative and reflective cycle (figure 6).

### 4. Results

The basic shape of the preliminary model (figure 5) held in the selected settings. Proposed adjustments were primarily meant concerning refining the model or making the model more applicable to a particular setting. However, the results do not imply that hospitals already have the ability to manage results in an effective way.

Since the DBC-product structure and market competition are gradually implemented, all interviewed hospitals admitted the increasing necessity of managing results to guarantee continuity of care. The feasible method to perform managing based on results is under development in all hospital settings. Nevertheless, the degree to which a particular hospital demonstrated the ability to adapt to the changing circumstances varied within the research sample. Hospitals with a relatively bigger B-segment production or a negative result from operations showed relatively more awareness of the increased financial risks and hence the necessity to manage their results. Opposite, one of the categorical hospitals and the academic hospitals showed little appreciation of the concept managing results primarily due to their other financial or historical funds.

Managing results required several adjustments to the hospitals' management model to distribute adequately responsibilities and tasks in the organisation. It appeared that establishing results centres is a common-used approach in most hospitals. Nevertheless, several hospitals had trouble with implementing this particular management structure. Within this scope, the statement that an appropriate management model concerning a particular setting always involves a sophisticated model was frequently heard as an excuse concerning the absence of a well-functioning model.

In addition, with respect to managing results, strategic choices and the demand of care affect hospitals' management model. However, in many cases it appeared that no obvious and tangible strategic objectives were formulated and once they have been formulated, measuring accomplishment was frequently omitted. Another signalled problem with respect to hospitals' strategy was the existence of outdated strategic plans. Concerning the demand of care, the majority of the respondents did not agree with the narrowed one-dimensional bar as popped up in the model. Although the respondents pretended to know the factors making up demand, the ability to perform demand-driven management appeared limited.

Several hospitals within the sample indicated that adjacent to the identified pillars finance, performance and quality, primarily the pillar 'people' was missing in the model. Since people or the organizational culture is an important critical success factor the hospitals' processes need, this component was thought to be relevant.

Furthermore, the respondents were asked about the hierarchy or sequence of the identified pillars finance, performance and quality. With respect to the categorical hospitals, quality and more or less performance were the leading components. Concerning the academic hospitals, it appeared that meeting the costs (finance) is in the lead due to the different tasks and separate financial funds those hospitals were faced with. One of the top clinical hospitals explicitly indicated that the pillar 'finance' is in the lead. The selected general hospitals agree relatively more with the classification of the pillars than the other hospital types, primarily due to the absence of a sophisticated managerial model.

It appeared that almost all hospitals were managing finance in a broad sense, because they were more or less focussing on meeting the costs given a particular production and service level. In addition, hospitals with relatively less performance-based production demonstrated less awareness of managing (financial) results.

With respect to performance, only in one setting operational excellence was found as a significant objective. Although most hospitals pretended to have insights into the performance of their product mix, those insights were not considered as a sound basis concerning managing the entity. Further, the majority of the hospitals had trouble with managing their occupation degree in an appropriate way. Moreover, several respondents did not agree with the presented central role of the planning & control cycle under the headings of performance in the model. Since the planning & control cycle should primarily guarantee the functioning of the management model, it is recommendable to present the cycle as surrounding the whole model.

Concerning care quality, several critical comments were made by the respondents. First, medical specialists were not considered as an important aspect concerning quality only. If they are not under paid employment of the hospital, the model does not express the exceptional status medical specialists have in relation to the hospitals' management model. Further, the same critics were addressed to 'risk management' as another aspect under the headings of quality. Risk management was also thought to be relevant concerning the other pillars of the model. Since hospitals have to afford all their investment activities by themselves, risk management apply to being 'in control' as a broader perspective than care quality.

With respect to managerial information, several respondents emphasized the importance of a well functioning basis register system in the hospital. Several hospitals appeared to have troubles with generating appropriate management information due to deficiencies in their information systems. Nevertheless, incorporating the hospitals' basic register system as a separate component in the model was thought to be irrelevant.

## **5. Analysis**

The basic assumptions and the preliminary conceptual model proven in those hospital settings confronted with relatively more market competition or with a relatively bigger sense of urgency to manage results, is the most prevalent conclusion that can be derived from the interviews. Hospitals faced with relatively more market competition are those hospitals involved with a significant part B-segment production in comparison to their total production. A relatively bigger sense of urgency regarding managing results was found in those hospitals confronted with a negative operation result or otherwise having financial difficulties not necessarily due to market competition as such. Other possibilities are the altered method of financing capital expenditures, poor financial management from the past or the need for financing upcoming big investment projects.

In general, the conducted interviews pointed out that production volume, costs, and investments are separately managed and hence nothing is actually changed to the former situation in which performance-based financing was mainly absent. A possible explanation could be that hospitals have to acclimatize during the transition from not-for profit to market competition. For the sake of simplicity and safety regarding being in control, they may explore the management methods they got used to.

Nevertheless, performance-based financing and more in particular market competition require an integral managerial approach to manage results (figure 8).

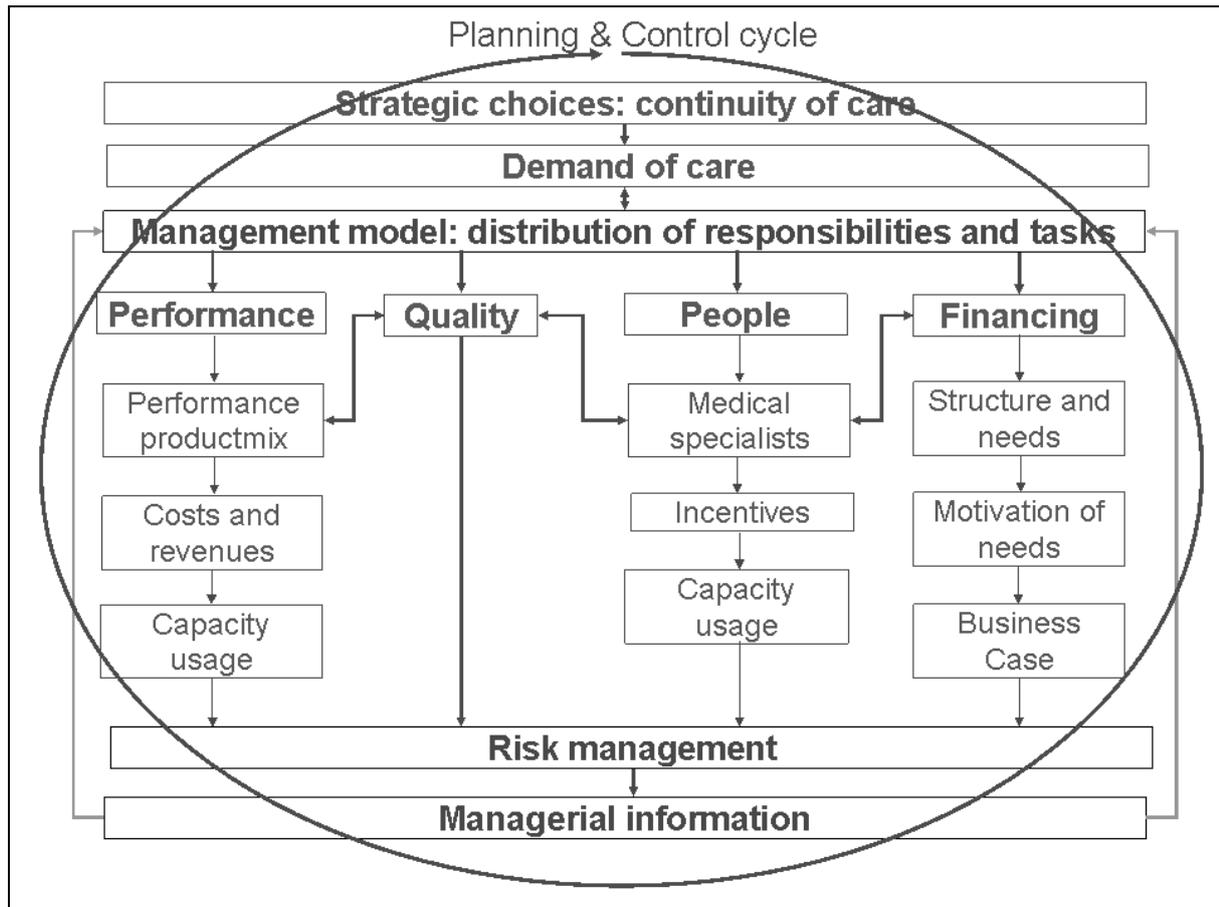


Figure 8: Adjusted conceptual model

In line with the presented model concerning integrally managing results, hospitals should at least address the following aspects in their management model and planning & control cycle.

Strategic choices are explicitly derived from the hospitals overall strategic plan. Since the accomplishment of the strategy should be secured on lower organisational levels, alignment exists between the hospital's management and the medical board. Concerning this reason, to identify the appropriate performance-indicators a bottom-up approach can be applied. The interview results did not provide joint or new performance-indicators relevant concerning the research's subject. Since most hospitals had difficulties regarding this topic due to a lack of experience within hospitals, nevertheless, the interviews pointed out that translating the strategy into tangible objectives by performance-indicators remains critical.

The necessity of alignment between the hospitals' management and their employees or self-employed medical specialists is partly demonstrated by adding the additional pillar 'people'. Next to it, the results of this research pointed out that the organisation's ability to successfully perform change management is expected to be fully dependent of the hospital's people irrespective their function. The alteration from management primarily focussing on being cost covering to actively managing results

requires cooperation of people within the organisation. Complicating factors in hospitals are the lack of medical specialists and identifying the appropriate incentives, not necessarily financially oriented. Incentives can be incorporated in management contracts involving a broad scope like research possibilities, education and visitation trips.

A useful method to reach alignment between management and the medical specialists on the condition that profits are shared, is implementing organisational structures like profit or result centres. Other useful approaches could be involving medical specialists in the hospital's board of directors or implementing a cooperative approach. Such management structures secure that responsibilities and tasks are distributed to lower or operational levels into the hospital organisation. Through profit centres medical departments or medical specialists as operational managers are integral responsible concerning the profitability of their products, quality of performed services and financing their needed investments. Exploring those management approaches will mitigate the threat the pillars are managed in a separate way.

Due to the ongoing changing circumstances concerning hospital financing and the environment they are acting in, applying risk management will be a useful concept. The results pointed out that hospitals have already settled down the concept concerning their performance and finance, but regarding care quality it is under exposure. The red vertical line connecting quality to risk management emphasizes the importance to implement risk management also in relation to quality of care as a part of the overall concept. Since political and social pressure coming from several incidents in the past, hospitals should properly secure quality of performed activities to mitigate reputation damage and ultimately financial risks.

As another prevalent conclusion from the interviews can be derived that the investigated hospitals have still not or just slightly implemented the before formulated aspects. The following factors will increase the adoption of the presented conceptual model in different hospital settings:

1. Eliminate the current partitioning walls in hospital financing by the government, creating a market competition in terms of a relatively bigger B-segment.
2. Create a level playing field between hospitals by the public and by the market authorities.
3. Less regulated market competition by decreased legislative pressure of the government and let critical developments (e.g. the possibility that hospitals will fall into bankruptcy) be handled by the discipline of the market.
4. Facilitate possibilities to distribute profits even outside the healthcare sector. This development would attract private investors who want to see return on investments to a certain degree.

## **6. Summary and discussion**

### **6.1 Summary**

As of 2005, Dutch hospitals are confronted with the DBC-product structure as the tool concerning gradually implementing competition market in the cure sector. Market forces are expected to decrease hospitals' costs and to increase efficiency and care quality within

the healthcare sector. The DBC-system involves a performance-based finance system that replace the previous finance and reimbursement system in which each hospital was primarily ensured of its revenues (Zuurbier & Steinbusch, 2005).

DBCs in free-market based model are considered as negotiate products between hospitals and health insurers all having their own interests. As a result, hospitals are faced with increased risk profiles (PwC, 2008) and hence a profit motive to secure continuity of services. Gradually implemented market competition through a system involving integral tariffs negotiated by the hospitals themselves, may threaten hospital's continuity as a care supplier. In addition, given the poor financial position of many hospitals current practice shows the urgency to alter the hospital's managerial approach from supply-oriented to demand-driven through actively managing results. Actively managing results requires adjustments in the hospitals' management model and planning & control cycle.

This research could not find those components already proven relevant for managing results. Although support regarding the content of the conceptual model was found, the empirical findings indicated that the urgency to integrally managing results was generally limited in the investigated settings. Only some hospitals performing relatively more B-segment production or having a poor and risky financial position showed urgency to develop a managerial approach focussing on results. Slightly implemented aspects thought to be relevant are the organizational structure in terms of establishing profit or result centres. In addition, distributing responsibilities in terms of financial and medical decisions to lower organisational levels creating a bottom-up approach, directly converting the hospital's strategy by means of identifying performance-indicators and performing analysis of departments, clinical pathways and composition of care profiles through lean management. Another relevant component is establishing a franchise network to sell and share knowledge and production methods.

Since costs, production and investments are managed in a separate way, opposite, hospitals in which managing results is beyond question yet control principally concerned about sub-areas. Those findings are primarily caused by the fact that competition market in the health care sector is still limited primarily caused by the system's distinction in A-listed and B-listed DBCs. Further, market forces raise the dilemma of the solidarity-principle (not everything should explicitly be paid) versus a commercial attitude of hospitals. Other dilemmas hospitals are faced with are care quality, transparency and people. Above all, the final purpose and conditions concerning introducing market competition in the cure sector by the government are far from clear and change over time.

As a result, hospitals have difficulties with the transition from not-for profit to profit and may play a waiting game. Hence, as the most prevalent conclusion could be drawn that appropriate planning and control components to manage results are under exposure or slightly under construction. Current practice actually indicates that this study may yet be one bridge too far.

## **6.2 Limitations and suggestions for future research**

This research is not different from any other scientific research and hence the work presented in this thesis is faced with limitations and restrictions. One of the boundaries of design-oriented and exploratory research approach is that it will only go as far as exploring

the research's subject. A specific solution to the formulated research question is not available. Outcomes of this research principally serve as recommendations and suggestions for future research. Without extensive field research in terms of a relatively bigger sample, it will be tough to identify the planning and control aspects concerning managing results from other characteristics and developments the Dutch care sector is confronted with on a continuous base. Examples of other characteristics may be political and social opinions.

With respect to case studies as one of the chosen research methods, also some shortcomings could be noticed. First, since obtained data principally refer to a specific case and only 9 out of more than 80 hospital cases were selected, it will be hard to generalize the findings to a wider population of interest. Second, obtaining data through interviews is not free from the researcher's subjective assessments. However, adequate selection of hospital types, and exploring multiple-case design as well as the triangulation-principle applied, and reviews of the research findings by external assessors and experts will enhance the ability to generalize the research findings.

The outcomes of the conducted research will provide some recommendations for future research. Further research could take the form of a longitudinal study to examine the functioning of the conceptual model while market competition is increasing in the future. Furthermore, it could be examined whether the extension of the B-segment will actually cause the urgency to manage results. In addition, one can investigate what are the minimum requirements of managerial information concerning management based on results. Once has been determined which managerial information is required for managing results, hospitals may be facilitated to perform management based on integral results.

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