

Application of Controlling Tools in German Hospitals

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ABSTRACT

Hospital management requires modern management approach. Hospitals as non-profit organizations have goals such as fulfilling available demand, providing rapid and comprehensive health care, and operating on a cost-covering basis. Reaching all these objectives is a great challenge for hospitals; that's why they need to apply modern understanding and techniques of Controlling. In the first part of this study, examination of Controlling as an application-oriented science in management of a non-profit company is performed, where strategic and operative Controlling are also considered. In the second part, historical development of hospital Controlling applications in Germany is examined. In the following part, requirements of modern hospital management are analyzed. Fourth part of the article investigates special instruments of financial Controlling in hospitals. It becomes clear that Controlling tools support non-profit institutions to establish success and realize their goals. These methods make utilizing chances, possibilities, and challenges possible in the management of hospitals.

Keywords: *Controlling, Non-profit organization, Portfolio-analysis, Balanced Scorecard.*

JEL Classification: *G11, I11, I18.*

Controlling Araçlarının Alman Hastanelerinde Uygulanması

ÖZET

Hastane yönetimi modern yönetim yaklaşımı gerektirir. Kar amacı gütmeyen kuruluşlar olan hastanelerin mevcut olan talebi karşılama, hızlı ve kapsamlı sağlık bakımı sağlama ve maliyeti karşılayan bazda faaliyetlerde bulunma gibi hedefleri bulunmaktadır. Tüm bu hedeflere ulaşmak hastaneler için büyük bir mücadeleyi gerektirir, bundan dolayı hastaneler Controlling'in modern anlayış ve tekniklerini uygulama ihtiyacı duyarlar. Çalışmanın birinci bölümünde, kar amacı gütmeyen bir şirketin yönetiminde uygulama odaklı bir bilim olan Controlling'in stratejik ve operasyonel Controlling de dikkate alınarak incelenmesi gerçekleştirilmiştir. İkinci bölümde Almanya'daki hastane Controlling uygulamalarının tarihsel gelişimleri incelenmektedir. Takip eden bölümde modern hastane yönetiminin gereksinimleri analiz edilmektedir. Makalenin dördüncü bölümünde ise hastanelerde uygulanan finansal Controlling'in spesifik araçları araştırılmaktadır. Controlling araçlarının kar amacı gütmeyen kurumların başarı sağlamalarında ve amaçlarını gerçekleştirmelerinde destek oldukları açıkça ortaya çıkmaktadır. Bu yöntemler zorluklarla başa çıkabilmede, olası fırsatlar ve imkanları değerlendirmede hastane yönetimine imkan sağlamaktadır.

Anahtar Kelimeler: *Controlling, Kar amacı gütmeyen kuruluş, Portföy analizi, Kurumsal performans karnesi.*

Jel Classification: *G11, I11, I18.*

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1. INTRODUCTION

Health care sector faces major economic challenges. Thus, hospitals have to change in order to continue their existence. As a result of high life expectancy and low fertility rate in developed countries such as Germany, growing health care expenditures are unavoidable. Increasing period of retirement shows that people use more health care services by paying low premiums to health insurance companies due to their limited income in old age. Financing of hospitals in Germany is realized with a dual financing principle. The ongoing operational expenses (i.e., personnel and material costs) are only included within the compensation system (Entgeltsystem) which is covered by health insurance funds. But, investment costs of a hospital are financed by public funds of the federal state in Germany (e.g., North Rhine-Westphalia or Bavaria) in which health care organization is located. Absences of financial resources of hospitals necessitate applying new techniques to monitor and support operational and strategic goals of a hospital. For this reason, Controlling has established as a work of executives in which whole process of goal setting, planning, and governance in the financial and economic fields are realized. So, Controlling includes activities such as decision-making, identification, determination, governance, and regulation.

This paper examines tools and techniques of Controlling required for modern understanding of hospital management. After defining the term Controlling, historical development of Controlling tools applied in German hospitals are described. Requirements of modern hospital management necessitate application of new management techniques in hospitals. Therefore, the last part of the study deals with portfolio-analysis and balanced scorecard as special instruments of financial Controlling tools to strengthen the position of a hospital in the competitive market.

2. DEFINITION OF CONTROLLING

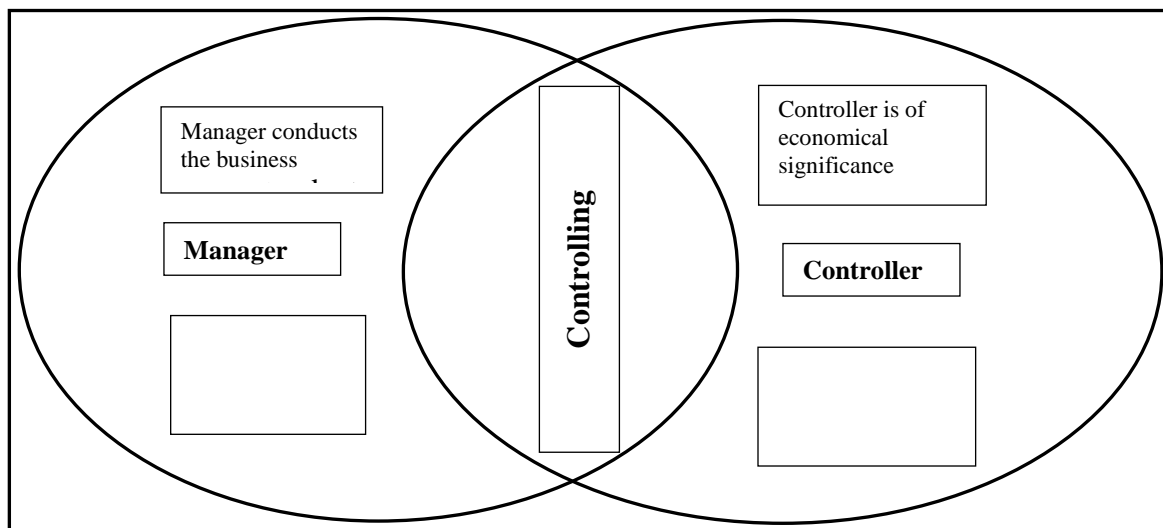
Controlling happens when managers and controllers work together. Thus, Controlling should run in every, even small, company. Controlling consists of a management style in which Controlling is goal and planning oriented, anticipative, adaptive, and decentralized. Operative Controlling is the task of executives where target formulation, planning, and governance are done for medium-term, more than one year time period. At the same time, objective criteria of operative Controlling are liquidity, profit, and stability. On the other hand; strategic Controlling is also the task of managers consisting of developing, examining, implementing, and monitoring strategies. So, the time horizon is unlimited. The target variables of strategic Controlling are existing and future potentials for success, market share as well as cash flow (International Group of Controlling, 2014).

Controlling is a section of business management system in which planning, governance, and control of all corporate divisions are mainly performed. In Controlling data of accounting and other sources are gathered. In Germany scientific discussion of the term Controlling began comprehensively in 1970s. The first basic understanding of Controlling is

the task of providing business data for management purposes. Thus, Controlling should meet economic transparency feature. Thereby, economic is understood as activity-goal-oriented or result-related. In particular, information provided refers to costs and revenues originating from internal accounting. Controlling differs from cost accounting and activity accounting in particular by using these information to meet right decisions for a company. Whereas internal accounting aims determining correct costs of a cost center or tries to find the right result of a product (Gabler Wirtschaftslexikon, 2014a).

Figure 1 explains definition of the term Controlling where controller ensures transparency of operating results and that’s why controller plays an important economical role. At the same time, executive leads the company by being responsible for results of the business. Common working area of operations is characterized as Controlling.

Figure 1: Definition of Controlling



Source: (International Group of Controlling, 2014: 1)

Task of the controller depends on a combined and consistent planning system in which following steps in Table 1 have been proved as valuable in practice. Planning steps include corporate policy, strategic planning, operative planning, and arrangement.

Table 1: Planning System in Controlling

Planning steps	Main question	Decision content	Plan elements
Corporate policy	Who do we want to be?	Determine key objectives and framework conditions	Vision, policy, and business concepts
Strategic planning	Where do we want to be?	Find and choose the success potentials	Strategic plans
Operative planning	How do we achieve the goals?	Exploit and rebuild the success potentials	Medium-term planning Annual planning
Arrangement	How do we react to disturbances?	Correct in order to meet the objectives	Expectancy calculation
Implementation			

Source: (International Group of Controlling, 2014: 5)

3. HISTORICAL DEVELOPMENT OF HOSPITAL CONTROLLING APPLICATIONS IN GERMANY

The origin of Controlling in practice was in state sector. First controllers were employed by English royal court in the 15th century to monitor incoming and outgoing flows of money and goods. Furthermore, a controller was charged to control the state budget and public expenditure in United States of America in the 18th century. In the business sector Controlling was applied for the first time in an American transportation company in connection with mainly financial tasks. Expansion of Controlling in the German corporate practice has started in the second half of 1950s. But, the first Controlling chair in a German university was established by Peter Horvath in 1973. Since then, Controlling has consolidated as a lecture in curricula of German universities (Gary, 2013: 64-65 and Lingnau, 1998: 274-276).

At the beginning monitoring and control tasks of accounting and finance were assigned to Controlling, but in the meantime responsibilities of Controlling has been enhanced by adding strategic aspects. Empirical studies carried out in Germany show similar pattern regarding the development of Controlling tasks. So, the scope of tasks has extended over the course of time. That’s why; strategic tasks and active contribution to the design of corporate goals have gained more importance (Gary, 2013: 64-65).

Until 1970, cameralistic accountancy applied in German hospitals had also been characterized as public service accounting which had deficits in information and governance. Public service accounting was the classical accountancy method of public sector. Target-performance comparison was carried out within the framework of budgetary surveillance, and finally annual financial statements were determined (Gabler Wirtschaftslexikon, 2014b). Double-entry bookkeeping had also been implemented where types of costs were assigned, but insufficient attention was paid to technical features of departments. As a result of

implementing cost accounting system on the basis of absorption costing, lack of transparency of secondary costs occurs (Beschoner, 2007: 87-88).

In general, there are two possibilities for assigning Controlling tasks to internal organization of a hospital. Thus, Controlling tasks can be noticed from already existing organizational units and process departments or from newly established independent Controlling centers. If there is not an independent Controlling department in a hospital, the task of Controlling must be realized by other organizational units. Empirical evidences indicate that 50% of German hospitals have independent Controlling department. Organizational separation between commercial and medical Controlling is often seen in hospitals. Controlling in hospitals has originated from finance and accounting as well as cost accounting. Strategic Controlling tasks are realized by corporate development and strategic planning (Gary, 2013: 64-69 and Straub, 1997: 71-73).

4. REQUIREMENTS OF MODERN HOSPITAL MANAGEMENT

Developments in health care sector have supported increase in life expectancy. German population has been getting older due to low fertility rate; that's why an altered age structure is available. As a result of better health care services provided by social security system, patient behavior has also changed. People have the right to choose their doctor and hospital for treatment. Moreover, improved income situation of people in Germany has also enabled affordability of medical services. Progress in medical and technical products has made a higher standard of living possible. Because of the constantly increasing demand for health care services, hospitals must realize continuous optimization of costs for maintenance of the service quality. Hospitals have been getting more innovative and technologically advanced medical companies. In the recent years, requirements for management of hospitals have become more demanding (Bracht, 2006: 6-7 and Schirmer, 2003).

German hospital sector causes the biggest expenditure for the statutory health sector; that's why reform legislation is at the focus. Thus, profitability potentials should be tapped in order to relieve the cost side and to prevent the increase in health insurance contribution rates. Against this background in 2003, consistently defined service oriented flat rate remuneration system was introduced for stationary hospital services on the basis of the Diagnosis Related Groups which provide changed fundamentals for price and budget assessment. Prognoses say that the need for hospital beds would decrease by 30% - 40% until 2015. As a consequence; the number of hospitals will fall at least a quarter. In the recent years, the health policy in Germany has been aiming to limit expenses of health care services (Bracht, 2006: 1-2).

According to Hans-Joachim Conrad, commercial Managing Director of university hospital Gießen and Marburg, medical potentials increase faster than available financial resources. Furthermore, since 2007 the income situation of hospitals has been badly influenced by the act came into effect which has reduced revenues. Intensified competition and increased overcapacity are the challenging issues of hospital management. In an era of

constant change where there are extreme needs for savings function and single-task-oriented jobs are out of date and no longer competitive, the work has to be organized in a process-oriented matter instead. Improvement of associated processes leads to bigger productivity gains than optimization of an individual work (i.e. automotive industry and lean production). As a consequence of aging population, the health care sector grows. Moreover; demand for financing alternatives rises due to lack of public investment. The entire process or cross-departmental major process must be divided into sub-processes and analyzed (Conrad, 2007: 1-29):

- To what extent costs of sub-processes are dependent on the provided amount of services?
- What factors affect the cost? (activity-based costing)
- Which cost types within sub-process need particular consideration? (determine as many costs as possible as direct costs)

Figure 2: Tasks of Hospital Management (Krizek, 2014: 1)

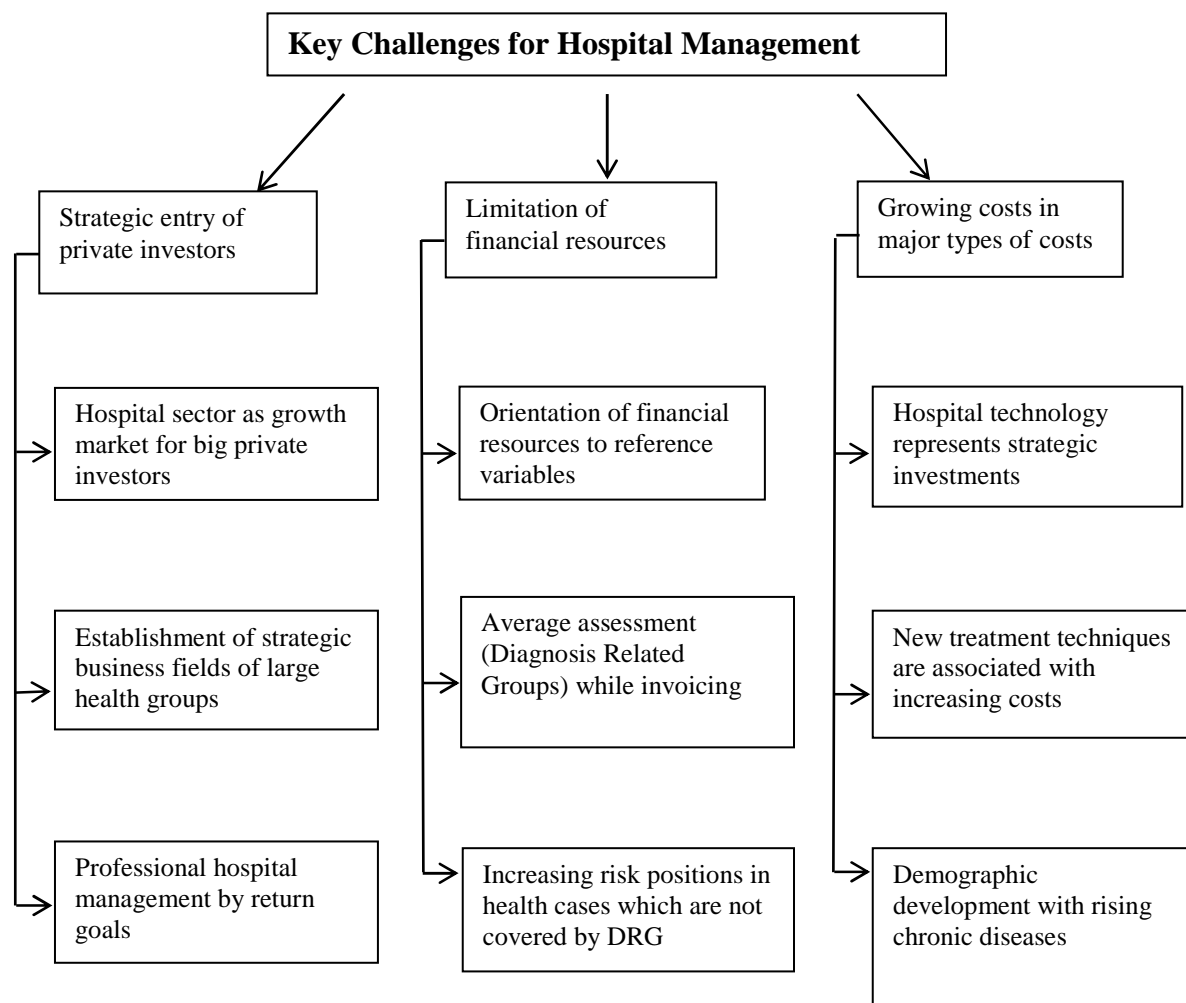


Figure 2 shows major challenges for the hospital management consisting of three important aspects. First of all is integration of private investors to a strategic business field in the health sector. Then; increasing limited financial resources and the last challenging task for management is considering the rising costs due to new technology and increasing chronic symptoms with aging population. So, change pressure in income side is intensified by developments in central positions of costs and cost types.

Requirements concerning application of Controlling in hospitals are the quality and completeness of the data for evaluation from diverse fields such as marketing, personnel, procurement & sales, and accounting. These play important role for quality management. Different analyzes with controllers show that required data are not available for many analytical purposes or often data anomalies are present. For Controlling systems it must be possible to assess the validity of obtained results and at the same time to disclose the weaknesses of data collection. For example; correct operation times are not accurately collected in transitional periods in operating rooms, that's why correct operating periods of doctors and nursing staff are not precisely registered. This data is essential for process depiction. Data illustration of each process in hospital is a central task for the future (Krizek, 2014: 4-5).

Furthermore; controller is highly responsible from the tasks of central information procurement for proper hospital management. Traditional cost accounting is the main task of Controlling, but focus of Controlling in German hospitals is procurement and processing of cost information and general information about services provided. So; controller monitors achievement of goals using indicators by establishing a plan. Thus, they are important complements of management. Controller provides instruments and information for being able to carry out his/her role. Main tasks of Controlling are (Papenhoff and Schmitz, 2009: 85):

- Participating in planning and implementation-planning
- Monitoring of objectives in question
- Giving information to important participants about current level of target achievement
- Taking countermeasures in connection with target achievement

Table 2 shows economic Controlling tools applied in hospitals. These are given in seven categories with corresponding instruments.

Table 2: Controlling Instruments Applied in Hospitals

Methods in planning, calculating, and product costing	<ul style="list-style-type: none"> - Cost and performance accounting (planning-cost accounting, actual-cost accounting, cost types, cost center, product costing, activity-based costing, direct costing) - Investment budgeting
Analytical methods	<ul style="list-style-type: none"> - Potential analysis - Strengths and weaknesses analysis - ABC-Analysis - Portfolio analysis - Deviation analysis - Image analysis
Optimization techniques	<ul style="list-style-type: none"> - Sequence and route optimization - Methods of target fusion - Monte-Carlo-Simulation, Probability - Mathematical programming
Coordination procedure	<ul style="list-style-type: none"> - System of financial control, Balanced scorecard - Internal budgeting - Cost allocation, Internal transfer prices
Information system	<ul style="list-style-type: none"> - Information needs analysis - Information procurement - Organization of reporting system - Documentation standards
Presentation techniques	<ul style="list-style-type: none"> - Meta-plan (a system for collecting and organizing information or ideas in a group collaboration environment) - Role plays - Mind mapping
Creativity process	<ul style="list-style-type: none"> - Scenario techniques - Brainstorming - Brain writing

Source: (Busse vd., 2010: 359)

Operative Controlling is based on key performance indicators where target achievement is monitored and managed in a short term time horizon. The task of monitoring consists of Controlling the established plans and the level of target achievements. This is a continuous process. Another supplemental task in operative Controlling is searching for reasons of possible deviations in actual situation from the planned target situation. So, controller must find answers to questions such as ‘why is the hospital making loss although a win was planned?’ or ‘which department is responsible for bad capacity utilization?’ However; strategic Controlling is scheduled for long-term period. The main task is to identify

and define future goals and to determine the strategy for achieving these targets. This work is usually assigned as responsibility of the management, which refers to the preparatory work of controller. Strategic Controlling is often driven by changes in the sector or hospital and also political variations. Strategic and operative Controlling complement each other and they can not act independently. A long-term planning is determined by the current actual state and vice versa short-term goals must not lose sight of the long-term achievement (Papenhoff and Schmitz, 2009: 86-87).

The challenging task of controller is realized by application of special instruments in financial Controlling to reach above mentioned goals. Following part of the study deals with these special techniques such as portfolio-analysis by giving an example for an analytical method. As a coordination procedure the technique of balanced scorecard is also examined to deal effectively with various health care services and connected departments.

5. SPECIAL INSTRUMENTS OF FINANCIAL CONTROLLING APPLIED IN HOSPITALS

5.1. Portfolio-Analysis in Hospital

The term of portfolio is usually derived from the field of security paper management. A security paper portfolio should be compiled in such a way that after consideration of risks and prospects of success optimal mix of various security papers is given. This idea was transferred to valuation of composition of product portfolio or business fields of a company. Theoretical foundation of portfolio analysis is product life cycle and experience curve concept. According to these concepts products pass through several stages of life through which profit and cash flow are affected. Compressed information is clearly depicted in a matrix form by using portfolio analysis. An optimally combined mixture of investment possibilities concerning risk and success is defined as portfolio (Schultz, 2010: 200 and Reichmann, 1997: 224-225). Moreover, portfolio analysis understands the whole activity of a company as a combination of strategic business units. These are based on two criteria consisting of opportunities and strengths of a company which are illustrated in a 4-field diagram to show current strategic position of a company. A section of a company which differs from other sections because of specific product-market combination is defined as a business unit. In case of hospitals, medical specialist departments or clinics are seen as strategic business units. Portfolio analysis aims to support long-term health care program planning of a hospital in order to obtain as profitable and balanced portfolio as possible (Kuntz and Vera, 2003).

The main forms of portfolio analysis are (Schultz, 2010: 200):

- Market growth-market share portfolio,
- Market attractiveness-competitive position portfolio, and
- Market product life cycle portfolio

Market growth–market share portfolio is the best known model developed in 1966 in which market growth expresses the attractiveness of a market and market share shows competitive situation of a company. To realize portfolio analysis the portfolio matrix is required. So, individual products or business fields of a company are positioned in the 4-field diagram. These fields are ‘stars’, ‘cash cows’, ‘question marks’, and ‘poor dogs’. They show the current market position of the product or business unit. These four fields can be defined as follows (Schultz, 2010: 200-202, Buchholz, 2013: 163 and Reichmann, 1997: 223):

Field 1 is defined as ‘stars’:

Products and business fields located in this field are evaluated as the best. They are considered as having a high market growth and share. They earn increasing financial revenues. Thus, these products should be supported in a targeted manner.

Field 2 is identified as ‘milk cows’ or ‘cash cows’:

They have low grow rates at a high market share promising high income. However, market is no longer growing so that investments should not be made in this area.

Field 3 is characterized as ‘poor dogs’:

This field represents problem cases. Due to low market growth by low market shares divestment seems to be the right decision.

Field 4 is characterized as ‘question marks’:

Products and business fields positioned in this field are hard to assess, because they need high financial support at a low market share and a high market growth rate in order to achieve a better location. They must be promoted or resigned in a targeted way. Strategic business units and products of this field are characterized as ‘question mark’ due to their situation in which whether they will develop to a ‘star’ or go prematurely to a ‘poor dog’ is unclear. Insofar selective procedures for targeted use of limited funds are recommended in this field. This follows from the fact that if a product or strategic business unit has chances to rise to a star, it is evaluated as good and as a result investments in this product must follow. Other products considered to be relatively less prosperous should withdraw quickly from the market.

Comparison of real portfolio with a standard portfolio can be done depending on which strategic instructions are given. Norm strategies are as follows (Reichmann, 1997: 223):

1. Investment and growth strategies,
2. Selective strategies, and
3. Skimming and disinvestment or harvest strategies

Important issue according this model is that each product crosses all phases of the matrix during its life. Ideal case is that products or strategic business units start in ‘question mark’ field, and become a ‘star’, which is milked in the maturity stage called as ‘cash cows’, and finally disappear from the market as ‘poor dog’. Depicting portfolio analysis by diagram

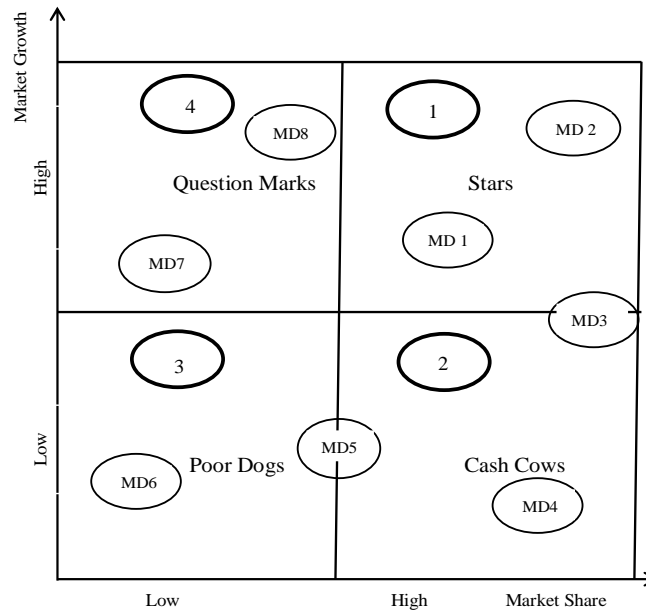
is beneficial because of its clear overview and it can be applied for coarse analysis. However, reduction of the model to a few influential parameters and description of comprehensive standard strategy with simple tools must be complemented by other approaches (Schultz, 2010: 200-202 and Freiling & Reckenfelderbäumer, 2010: 343-344).

Figure 3 illustrates how portfolio method works in a hospital. A company has a balanced portfolio; if high proportion of medical departments is positioned in the field of 'cash cows' and 'stars'. Abbreviation 'MD' stands for medical department. For example, Department 1 represents department of orthopedics and Department 2 stands for urology. It is obvious that Departments 1, 2, 3 are prosperous; but Department 6 is a problem case. 'Cash cows' such as MD 4 and partial MD 5 earn financial surpluses important for survival of a company and which are necessary for investments in products of the field 'star'. Star products or star departments are the bases for future business opportunities which need to be built up.

To implement the market growth-market share portfolio analysis, it is necessary to follow the procedure as follows (Kerth and Pütmann, 2005):

4. Differentiation of business units
5. Determination of market growth in business units
6. Determination of relative market share of the business units
7. Assessment of performance in business units
8. Analysis based on a four-field-matrix
9. Derivation of standard strategy

Figure 3: Portfolio Analysis in Hospital



However, criticism of the model is diverse. Along the subjective definition of four fields seems to be open for criticism. Even in the preparation phase, it is dubious defining the dividing lines between high market share and low market share or between rapid growing markets as well as stagnating markets of the matrix (Buchholz, 2013: 165).

5.2. Balanced Scorecard

In the recent years, Balanced Scorecard (BSC) has established in most of the health care institutions as a management information and key indicator system. Thus, BSC replaced a long-standing past oriented financial key indicator with a new future-oriented approach. To achieve competitive advantages, a health care institution has to review effectiveness of its strategies regularly. Combination of long-term and short-term goals with indicators makes BSC a comprehensive management system. This model supports management of an organization by focusing on crucial target parameters for all hierarchy levels using obligatory indicators (Busse vd., 2010: 344-345).

Balanced Scorecard is a special model for concretion, illustration, pursuit of strategies, and measurement of strategic success. Until the 1980s, strong financial orientated management systems determined the market which gradually has come under criticism. As a result, Harvard Professor Robert S. Kaplan developed the concept of Balanced Scorecard with his research team in the 1990s. They recognized that employees of many companies rarely know the strategic approaches of the employed companies and that's why these are not or insufficiently implemented. Consequently, strategy implementation failed or proceeded very slowly which led to no remarkable competitive advantages. The model of Balanced Scorecard (BSC) aims to include other variables such as customer, internal business process, and learning & growth. Thus, this model does not only take into account financial parameters (Dombrowski, 2010: 4-5).

Kaplan says: 'The BSC retains financial metrics as the ultimate outcome measures for company success, but supplements these with metrics from three additional perspectives – customer, internal process, and learning and growth – that we proposed as the drivers for creating long-term shareholder value' (Kaplan, 2010: 4). So; balanced scorecard is a tool to depict important perspectives of a company consisting of customer, processes, and development on the basis of key indicators. Improved control and implementation of strategies in companies result by implementing BSC.

Diverse dimensions of BSC focus on the vision and strategy of a company. Goal of the BSC is to create a key indicators system of monetary and non-monetary variables demonstrating different aspects of a company equally. By application of BSC, all employees and managers should be motivated to implement the corporate strategy successfully. Thus, BSC is seen as a bridge between strategic and operative Controlling. This model acts as an early warning system by ensuring compliance with aims in operative areas derived from the strategy. BSC helps to transform the corporate strategy in targeted measures. So, strategy

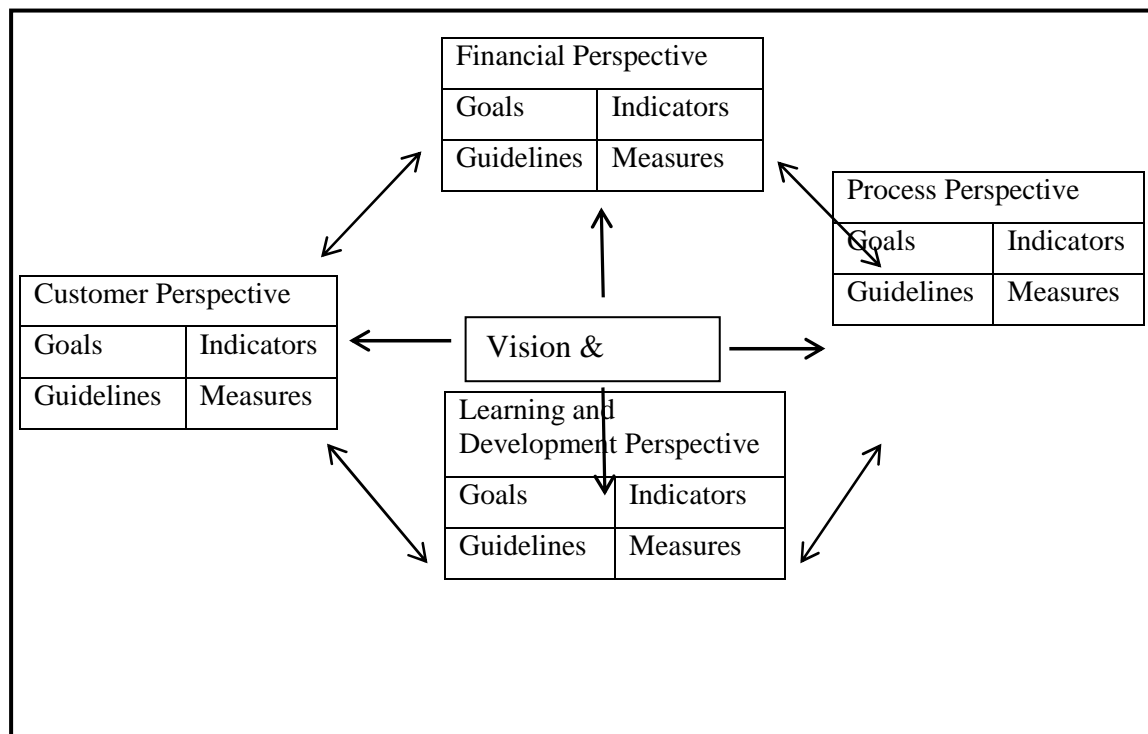
derived objectives form basis for the key indicators of BSC. Key point in the BSC model is illustration of selected success factors (Buchholz, 2013: 282-284).

Customer perspective is as important as an income source. Thus, attractive range of products is the essential prerequisite to achieve long-term goals of financial perspective. So, market positioning and definition of the range of products take place. Regarding to a hospital following questions must be answered: Where do the patients come from and which patients do I want to care in the future? That's why; this aspect forces to perform a detailed market analysis and evaluation. Hereby, customers should be divided into diverse segments in order to highlight expectations of each segment regarding offering, quality, and service. Key indicators in this perspective are such as market share and customer satisfaction. Processes are crucial to meet the goals of financial and customer perspectives. Corporate management should focus on processes which are crucial for the success of a company (Dombrowski, 2010: 6-7).

Process in a hospital starts with admission of a patient and it ends by leaving from the hospital. Process related indicators in a hospital are, for example waiting time before a diagnostic measure or incision-suture-time of a surgery. Moreover; processes of administrative departments are also considered in BSC, so these are expressed by corresponding indicators. In the last phase of learning and development, the future of a company becomes clearer. That means, long-term existence of a company is only possible with a permanently learning organization. Thus, appropriate infrastructure of this perspective enables the success in other perspectives. Most important figures of the learning and development aspect are employee potential (knowledge and skills), employee motivation (willingness to cooperate), and potentials of information systems (acquisition of information by internal and external framework conditions and through exchange of knowledge, experience, and opinions) (Papenhoff, 2009; Buchholz, 2013: 96 and Schultz, 2010: 214-215).

Figure 4 illustrates the model of BSC in which a company is considered from four perspectives. In each of these perspectives objectives are defined and controlled by key indicators. To reach these goals guidelines and measures are determined. Financial aspect of a company is crucial, because long-term existence and success are guaranteed if and only if goals of this perspective are realized. All other perspectives, in other words variables, have to contribute to the achievement of financial key indicators. Most important goals of financial aspect are earning money and securing the source of income.

Figure 4: Balanced Scorecard



Source: (Busse vd., 2010: 346)

To achieve the vision and strategy of a company (i.e. hospital) following questions for each aspect must be answered (Busse vd., 2010: 345-348, Dombrowski, 2010: 5-7 and Kaplan, 2010):

From financial aspect:

How can financial success be secured to meet the vision?

What do we want to perform in the financial field?

From customer perspective:

How should the hospital appear to customers to meet their needs?

What health care services should a hospital provide to its customers?

From learning and growth perspective:

How can skills be sustained to enable change and improvement?

How can a hospital remain flexible and improvable?

From internal business aspect:

At what business processes must a hospital excel?

What are critical business processes?

In Table 3 goals and selective key performance indicators of corresponding perspectives are given. Based on the key figures the successfulness of a health care institution from each aspect can be assessed. All indicators are focused on fulfilling their core function to meet the vision and strategy of a hospital. For example, to reach earnings growth key indicators; such as revenue growth, profitability, and share of a new product; are used. Thus; strategic goals and indicators are defined, target values for indicators are determined, and measurements to reach these target values are described for each perspective.

Table 3: Goals and Selected Indicators of the Four Perspectives of BSC

Perspective	Goals	Selective key performance indicators
Finance	Earnings growth	Revenue growth Profitability Share of new product
	Increase in productivity	Employee productivity Cost reduction Cost share
	Use of assets	Investment share Return on assets Working capital
Customer	Identification and penetration of customer and market segments in which the company operates and wishes to take action	Customer satisfaction Customer loyalty Acquisition of new customers Market share
Internal Business Processes	Orientation of internal processes to the requirements of customers and objectives of the shareholders	Process time / quality and costs Innovation time / quality and costs Customer service quality
Learning and Development	Establishment of the required infrastructure to achieve the goals of other perspectives	Employee satisfaction Employee loyalty Employee motivation Use of Information

Source: (Buchholz, 2013: 285)

6. RESULTS

Hospital management needs to apply modern management methods to continue their existence. So, Controlling department of a hospital plays important role to secure competitiveness and survival of a health care institution in a high competitive market. To achieve these goals modern business management tools enable required transparency in high complex health care services of hospitals. The monitoring and control tasks of accounting and finance at the beginning performed by Controlling strategic aspect have also been included in the tasks of Controlling. Providing health care services necessitate a wide range of complex medical, business, and as well as information technology-based system. Thus, hospitals are only reasonably economical manageable if Controlling also participates in this medical specialized knowledge by using information technology.

Medically trained employees have been integrated into hospital Controlling which was previously shaped mainly with staff of business studies. So; Controlling has developed into an interdisciplinary approach which has developed to handle the challenges occurring in a hospital easily and effectively. The biggest expenditure of the statutory health sector is caused by the hospital sector in Germany; that's why profitable and effective management of hospitals is in the target of hospital management. Thus, available potential should be fully tapped to relieve the cost side and to prevent the increase in health insurance contribution rates.

To achieve this aim, Portfolio-Analysis and Balanced Scorecard proved true techniques to deal with tasks and to reach the strategic goals of a hospital. It becomes clear that the first method Portfolio-Analysis considers each medical specialist departments of a hospital as a unique strategic business unit. Hereby, it is evident that market growth-market share portfolio is the best known technique to apply. Important issue in this model is that each product or medical department crosses all phases of the 4-field diagram consisting of 'stars', 'cash cows', 'question marks', and 'poor dogs'. The longer a department remains in the field 'stars' and 'cash cows', the better job the Controlling department performs.

Applying Balanced Scorecard in addition to Portfolio-Analysis is a financial key indicator with a future-oriented approach for gaining a better view of current and future situation of a health care institution. This is done by concentrating on important parameters for all hierarchy levels in a hospital. Thus, pursuit of strategies and measurement of strategic success is easily achieved. BSC is seen as a bridge between strategic and operative Controlling. Inclusion of four different perspectives in the BSC model makes it possible to achieve the determined wide-range goals and to control them by key indicators. Financial, process, learning & development, and customer perspectives simplifies achieving the vision and strategy of a hospital. By determining the selective key performance indicators for each perspective, monitoring becomes easier in these four perspectives. In case of correction which

needs to be done for a questionable perspective, the reason for failure can be found. So; the vision and strategy of a hospital can be better achieved.

Above obtained results show that application of Controlling tools in hospitals are useful and they support increase of competitiveness in health care market. Financial situation of Turkish hospitals is precarious that implementing such an effective technique would be very powerful to improve their position. By this way; a sound financial basis can be built up which would ensure the long-term existence of hospitals in Turkey.

By applying controlling tools, transparent basis for decisions and course corrections is provided. Concretion, illustration, pursuit of strategies, and measurement of strategic success are efficiently reached. Measurable success criteria were previously obtained only moderately or not at all. Now, measurable success criteria are presented by figures by applying tools and techniques of Controlling, so that they can be easily evaluated and measured. Moreover, strategies can be read simply from these methods, On the other hand, implementation of these methods is associated with high costs which is increased by integration of extern consultants. Also, missing know-how is a problem because even small mistakes in modelling of these techniques can lead to devastating strategic wrong decisions. Time factor is also seen as a disadvantage because introduction of these methods is done by available specialists and managers. Due to lack of complexity in this modelling, important factors and informations can be lost. Furthermore, in portfolio-analysis dependencies and composite effects are not considered.

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