

A Review of the Use of Strategic Management Tools in the Health Sector

Dani Sahirul Alim¹, Nur Wening²

¹Doctoral Student, ²Associate Professor, Post Graduate Program of Management, University of Technology Yogyakarta

Abstract

This paper is a review and study of various research related to tools of strategic, and factors that influence both of internal and external strategic in medical facilities research. The purpose of the review is to explore and connecting theories from various research. This paper identified 51 articles with related topics published the last decade. The results of this study that research related to implementation tools of strategic in health facilities still rarely. The use of SWOT (strengths weaknesses opportunities threats) analysis is the most popular tool used (42.86%), followed by Break-even analysis (28.56%), Balanced scorecard (BSC) and PEST (political, economic, socio-cultural, technology) each (14.29%). Based on the analysis of environmental factors related to internal factors in the health facility amount of 33.33%. External environmental factors in health facilities that have been studied amounted to 66.66%. Based on the summary of research related to internal and external, it is known that industry environment factors and rivalry environment factors are still rarely studied. The general environmental factors of demography and epidemiology are still rare studies and have the opportunity to be researched and developed.

Keywords: *strategic management, medical, strategic, tools, environment factors*

Introduction

Strategic management is very important to decisions making and to determine the future of the hospital. Due to the carefully conducted strategic analysis, a hospital can define:

- Tasks that must be addressed as well as opportunities and threats that emerge in the surrounding environment
- Possibilities arising in the surrounding environment,
- The present and future position in the managed market of health certificates
- The projected strategy that must be implemented, answering the challenges and flowing the chances arising from its immediate and more distant environment ¹

Because of the introduction of (regulated) market competition and self-regulation, strategy in becoming

and importance management field for health care sector ². Healthcare organizations today are facing a series of problems such as patient dissatisfaction, demanding user, lack of medical personnel and others, demand the need for a strategic management in health service ³. Changes in the external environment (i.e., demographic and epidemiological transitions, economic fluctuations, public and political expectations) and health care systems (i.e., health market, demands, costs, new technologies, regulations) have put pressure on hospital managers to implement strategic management programs responding to environmental challenges^{4,5}. According to studies, most health care facilities develop strategic plans (71.4%). For 21.4% of the studied facilities, the strategic plan is known mainly to management. In contrast, 28.6% of entities do not have a strategic plan. Health facilities that have implemented of strategic management using methods SWOT analysis 64.2%, break-even point analysis 42.9%, PEST analysis 14.3%, with factors that influence strategies such as political and

legal, economic, sociocultural, technology, demographic and epidemiology¹. Previous research conducted in Indonesia comparing Muhammadiyah Hospital in East Java with Muhammadiyah Hospital in Central Java showed that hospitals in one organization may not necessarily have the same management standards in hospital management, so it cause the different speeds development⁶.

Literature Review

Strategic Management Models

The business model is a template that depicts the way the firm conducts its business. It describes the system of interdependent activities that are performed by the firm and by its partners and the mechanisms that link these activities to each other⁷. Strategic management in health facility research is very important for its future development and for maintaining competitiveness⁸. According to Fred David's strategic model, strategic management process is comprised of three stages that include strategy formulation, strategy implementation and strategy evaluation. It drives all the activities of an organization. Strategy formulation also familiar as strategic planning involves the steps: development of vision and mission statements, audit of internal and external environment, long term objectives, and generation, evaluation and selection of strategies respectively. The second stage of strategic management process is commonly known as strategy implementation. In this stage, business strategy is actually implemented. It involves the activities like establishing annual objectives, devising policies for each business function, and allocating resources etc. for achievement of organizational objectives. The third stage is the strategy evaluation (strategy evaluation) this stage is carried out by evaluating work and taking corrective action in each stage of the strategy. Organization should continuously update and its internal and external environments by knowledge management and competitive intelligence respectively. Any change in important internal and external factors or identification of new ones can lead to change in business strategy⁹. Currently the

process of making a management model is developing, observations of important information to make a business strategy model can using computer including to see environmental factor are most influential in determining strategy management^{10,11}. The process of developing information systems in making strategic management of the synergy Decision Support Systems (DSS) with Knowledge Management (KM) in a Management Information Systems (MIS). The important factors in Knowledge Management (KM) are environmental factors that influence management strategies to make organization competitive advantage¹².

Tools of Strategic Management Formulation Research

According to previous research in Lubin region, most health care facilities develop strategic plans (71.4%). For 21.4% of the studied facilities, the strategic plan is known mainly to management. In contrast, 28.6% of entities do not have a strategic plan. Health facilities that have implemented of strategic management using methods SWOT analysis 64.2%, break-even point analysis 42.9%, PEST analysis 14.3% and none of the surveyed health care facilities applies the balanced corecard. This may indicate a relatively low knowledge of this tool among health care managers¹. The most common tool used in strategic management is the analysis of strengths and weaknesses². External factors are related to opportunities and threats, while internal factors are related to strengths and weaknesses¹³. Research related to SWOT analysis in health facilities that have been carried out include strategies in medical tourism^{14,15}, improved dengue mapping¹⁶, information technology (IT) development in the health industry¹⁷, to translate evidence and guidelines into medical strategies for individual patients¹⁸, development of targeted health promotion strategies¹⁹, facility strategic management (buildings, infrastructure, organization and environment) public hospitals²⁰.

Hospitals are complex organizations that have many professionals and resources in a variety of medical therapy services, so we need tools to measure

performance indicators systematically. For this reason, the Balanced Scorecard (BSC) tool is used to measure performance management or performance effectively and efficiently in hospitals²¹. Balanced scorecard makes the strategic target of an enterprise into some balanced indexes of performance evaluation, and examines the state of the indexes in different time. In this way, a reliable performance evaluation system is built to achieve the strategic target. The performance evaluation of an enterprise is divided into four indexes: finance, customer's satisfaction degree, internal process, innovation and improvement²²⁻²⁴. The main advantage of the method consists in guiding managers, departments, human resources, technological and financial toward the strategy organization. . Unfortunately BSC is mainly used in private companies, because high costs and lack of specialists pose a real obstacle in implementing this instrument. Balanced Scorecard (BSC) is used to achieve an operational strategic vision at all levels of the organization regarding issues related to performance, strategy, communication, resource allocation, decision-making and competitiveness²⁵. The research related to BSC analysis in health facilities that have been conducted include to measure performance against the national standards and guidelines in the Essential Package of Hospital Services²⁶, used to assess the quality of health services to strengthen health services in the development of a country²⁷.

Break-even analysis is the use of a simple mathematical formula to determine the sales level in which the business. Break-even analysis, sometimes called cost volume profit analysis, is an important analytical technique used to study relations among costs, revenues and profits²⁸. The research related to Break-even analysis in health facilities that have been conducted include immunization development programs for children to find out the relationship between fixed and variable costs to income received from immunizations²⁹, this analysis is also carried out in the smoking cessation program in pregnancy to find out the economic benefits of this program compared to the cost of care because of the effects of smoking on pregnant women such as low

birth weight babies (LBW)³⁰, This analysis is also used to assess procurement of equipment such as MRI scans in health facilities³¹, cost analysis to determine the most effective and efficient method for treating dementia patients³², Analyze the risk of companies that can be reduced by health promotion programs³³.

Most of the studies use PEST analysis to analyze the general environment which represents political, economic, sociocultural, and technological factors³⁴. Describes a framework of macro-environmental factors used in the environmental scanning component of strategic management but the word PEST is no more than a convenient mnemonic. The underlying thinking of the PEST analysis is that the enterprise has to react to changes in its external environment. This reflects the idea that strategy must involve an analysis of the external environment in determining strategy^{35,36}. The research related to PEST analysis in health facilities includes analysis of environmental factors that affect mental health³⁷, use of PEST analysis to find out important factors that influence the pharmaceutical sector³⁸, PEST analysis to create a competitive advantage in the health industry³⁹. The used tools of strategic management is based on the purpose of the strategy because they have their respective functions and strengths.

Factors That Affect Strategic Management

Internal and external environment is one of the factors that influence the evaluation and performance of an organization⁴⁰. Internal and external environmental factors are factors that influence the strategy. Internal environmental factors include:

1. Resources (Finance, physic, technology, human resource, innovation dan reputation)
2. Value chain analysis (infrastructure, MSDM, technology development, procurement, Inbound logistics, operations, Outbound logistics, marketing and selling, dan service)

While external environmental factors allow:

1. General environment (politic, economy, socio

cultural, technology, demography, environment)

2. Industry environment (threat new entrants, bargaining power suppliers, bargaining power of buyers, threats of substitutes products)

3. Rivalry environment⁴¹

Analysis of environmental factors, can be analyzed by PESTEL analysis, i.e. Politic (P), Economic (E), Social (S), Technological (T), Environmental (E), and Legal (L). PESTEL analysis can be combined with SWOT analysis to make better and prudent decisions and strategic solutions^{42,43}. External environmental factors have a significant effect on the company p value 0,025. Therefore external environmental factors (i.e. politic and legal, economy, socio cultural, technology, demography dan epidemiology) it is important to be analyzed and controlled for the achievement of successful strategy formulations for the company⁴⁴. Analysis of external environmental factors allows the organization to extract timely information about the environment, the business environment at the regional level and to develop the development programs of the organization in the short and long term³⁹. The choice of strategy is influenced by the business environment. Companies must be able to identify these factors, especially external factors because these factors are outside the company and difficult to be managed by the company. Then an analysis of environmental factors is used in determining strategies that will positive impact a company⁴⁵. Analysis of environmental factors must also be integrated to determine the strategy will be developed by the company⁴⁶.

In previous studies internal factors affecting health facilities include research with value chain management to compare the speed of development of Muhammadiyah Hospital in East Java and Central Java Indonesia⁶. Resource analysis of hospital performance^{47,48}. External factors that have been studied in health facilities include political and legal, economic, socio-cultural, technological, demographic and epidemiological factors^{1,37-39,49}.

Method

This paper is a review and study of various research related to models of strategic, tools of strategic, and factors that influence both of internal and external strategic, especially in the scope of health research. The articles collecting by the google database, google scholar and mendeley. A review was conducted on articles with topic tools of strategic and factor that affect strategic especially in the scope of health research. We identified approximately 51 articles that were published in the last decade. The review in this article is divided into several sections that are strategic management models, tools of strategic, environmental factors that affect strategic management as well as conclusions and possible research that can be developed.

Results and Discussion

In hospitals, as highly pluralistic contexts, organizational knowledge, legitimacy and social capital play an important strategic role. However, their accumulation involves a variety of internal and external stakeholders concerned with both internal conditions and the external environment. The strategy management process revealed many similarities in how this process occurs at both hospitals. The main similarities are: (a) only the partial adoption of the SP; (b) the relevance of political interactions (more than plans) in strategic decisions; and (c) the influence of the institutional environment in strategic decisions and actions⁵⁰. Only the partial hospital adoption of the Strategic planning (SP) this is an appropriate other research in lubin region, most health care facilities develop strategic plans (71.4%). For 21.4% of the studied facilities, the strategic plan is known mainly to management. In contrast, 28.6% of entities do not have a strategic plan. Health facilities that have implemented of strategic management using methods SWOT analysis 64.2%, break-even point analysis 42.9%, PEST analysis 14.3%, with factors that influence strategies such as political and legal, economic, sociocultural, technology, demographic and epidemiology¹. Based on a summary of studies, using tools to determine the strategies in health facilities, as in the table 1:

Table 1. Summary of research using tools of strategic in health facilities.

Strategic tools	Percentage (%)
SWOT (strengths weaknesses opportunities threats)	42,86
Balanced scorecard (BSC)	14,29
Break-even analysis	28,56
PEST (politic, economic, socio-cultural, technology)	14,29

Source^{4,14,29-33,37,39,51,16-21,26,27}

Based on table 1. It is known that SWOT analysis is the most popular strategy tool used in the health sector, while other formulation tools of strategic are still relatively unpopular. Based on previous research conducted on health facilitation research in the Lubin area, it is known that there are six environmental factors that influence the strategy including political and legal factors, economic factors, social culture, technology, demography and epidemiology. What is the reason why SWOT analysis is used the most while PEST analysis is the least used should be able to be addressed in further research. The results in table 1 also show that research related to PEST and BSC in the health sector is still very minimal and is a research opportunity that is still very likely to be developed.

Conclusion

For a company to have a competitive advantage and be able to compete for a long term, the company must have the tools of strategic. Various strategies that can be used such as SWOT analysis, Break-even analysis, PEST analysis and balanced scorecard (BSC) analysis. The used tools of strategic management is based on the purpose of the strategy because they have their respective functions and strengths. On formulating the strategy there are environmental factors that influence such as internal factors and external factors. Internal factors include resources (Finance, physic, technology, human resource, innovation dan reputation) and value chain analysis (infrastructure, MSDM, technology

development, procurement, inbound logistics, operations, outbound logistics, marketing and selling, dan service). While external environmental factors include the general environment (politic, economy, socio cultural, technology, demography, environment), industry environment (threat new entrans, bargaining power suppliers, bargaining power of buyers, threats of substitutes products), rivalry environment.

The research related to implementation tools of strategic in health facilities still rarely. Previous research conducted at health facilities in the Lubin area can be developed to see variations of tools of strategic applied in different regions or countries. Is this related to internal and external environmental factors in the region. What are the internal and external factors that most influence can be studied. Previous studies that no one has researched what sub factors most influence the socio-cultural, demographic and epidemiological factors. The use of BSC and PEST analysis tools are still rarely used in health facilities and have the opportunity to be researched and developed. Based on a summary of research related to internal and external factors that have been carried out in health facilities, it is known that industry environmental factors and rivalry environment are still rarely to be studied. The general environmental factors of demography and epidemiology are still rarely research that explores it in health facilities so it can be a future research opportunity.

Ethical Clearance: No Need Ethical Clearance on this Research

Source of Funding: This research was funded privately and did not receive funding from any party.

Conflict of Interest: The author confirm that there are no conflicts of interest to disclose.

References

- Jaworzynska M. Using tools of strategic management in medical facilities of Lublin region. *Eng Manag Prod Serv.* 2017;9(2):82–9.
- Reviews B. 357 policy determination for the last 8 years working for organisations like Save the Children UK, VSO and APSO. Regina Keith RGN RM RPN MSc International Health. 2007;(July 2010):357–9.
- Speziale G. Strategic management of a healthcare organization: Engagement, behavioural indicators, and clinical performance. *Eur Hear Journal, Suppl.* 2015;17:A3–7.
- Liu CF, Rubenstein L V., Kirchner JAE, Fortney JC, Perkins MW, Ober SK, et al. Organizational cost of quality improvement for depression care. *Health Serv Res.* 2009;44(1):225–44.
- Terzic-Supic Z, Bjegovic-Mikanovic V, Vukovic D, Santric-Milicevic M, Marinkovic J, Vasic V, et al. Training hospital managers for strategic planning and management: A prospective study. *BMC Med Educ.* 2015;15(1):1–9.
- Nugroho MN, Trisnantoro L, Purnomo E. The benefit of cooperation evaluation among hospitals in department of health and welfare of Muhammadiyah organization. *BMC Public Health.* 2014;14(S1):2458.
- Amit R, Zott C. Business Models [Internet]. Second Edi. Vol. 3, International Encyclopedia of the Social & Behavioral Sciences: Second Edition. Elsevier; 2015. 33–36 p. Available from: <http://dx.doi.org/10.1016/B978-0-08-097086-8.73040-6>
- Mišanková M, Kočíšová K. Strategic Implementation as a Part of Strategic Management. *Procedia - Soc Behav Sci* [Internet]. 2014;110:861–70. Available from: <http://dx.doi.org/10.1016/j.sbspro.2013.12.931>
- Shujahat M, Hussain S, Javed S, Malik MI, Thurasamy R, Ali J. Strategic management model with lens of knowledge management and competitive intelligence: A review approach. *VINE J Inf Knowl Manag Syst.* 2017;47(1):55–93.
- Osterwalder A, Pigneur Y. Designing business models and similar strategic objects: The contribution of IS. *J Assoc Inf Syst.* 2013;14(5):237–44.
- Garel G. A history of project management models: From pre-models to the standard models. *Int J Proj Manag* [Internet]. 2013;31(5):663–9. Available from: <http://dx.doi.org/10.1016/j.ijproman.2012.12.011>
- Alyoubi BA. Decision Support System and Knowledge-based Strategic Management. *Procedia Comput Sci.* 2015;65(Iccmit):278–84.
- Kureshi N, Sajid A. Swot Analysis As a Tool for Formulating Quality Strategy. *PiqcEduPk.* 2005;(July):1–13.
- Ajmera P, Singh M, Satia HK. Prioritization of Strengths, Weaknesses, Opportunities and Threats of Indian Medical Tourism Sector using Integrated Swot Analysis. *Int J Innov Res Sci Eng Technol.* 2015;4(5):3665–73.
- Liu J. Journal of Islamic Marketing. *J Islam Mark Artic.* 2013;4(1):2013–4.
- Attaway DF, Jacobsen KH, Falconer A, Manca G, Waters NM. Assessing the methods needed for improved dengue mapping: A SWOT analysis. *Pan Afr Med J.* 2014;17:1–7.
- Helms MM, Moore R, Ahmadi M. Information technology (IT) and the healthcare industry: A SWOT analysis. *Med Informatics Concepts, Methodol Tools, Appl.* 2008;1–4(March):134–52.
- von Kodolitsch Y, Bernhardt A, Robinson P, Kölbl T, Reichensperner H, Debus S, et al. Analysis of Strengths, Weaknesses, Opportunities, and Threats as a Tool for Translating Evidence into Individualized Medical Strategies (I-SWOT). *Aorta.* 2015;03(03):98–107.
- Skinner K, Hanning RM, Sutherland C, Edwards-Wheesk R, Tsuji LJS. Using a SWOT analysis to inform healthy eating and physical activity strategies for a remote first nations community in Canada. *Am J Heal Promot.* 2012;26(6):159–71.
- Trifonova S, Pramatarov A. SWOT Analysis of the Facility Management of Hospitals : The Case of Bulgaria. *Acad Contemp Res J.* 2016;V(1):1–9.

21. Chen H, Hou Y, Chang R. Application of the balanced scorecard to an academic medical center in Taiwan: The effect of warning systems on improvement of hospital performance. *J Chinese Med Assoc* [Internet]. 2012;75(10):530–5. Available from: <http://dx.doi.org/10.1016/j.jcma.2012.07.007>
22. Tian Q, Gan L, Wang R. Application of balanced score card in LCC management. *Proc 2012 Int Conf Qual Reliab Risk, Maintenance, Saf Eng ICQR2MSE 2012*. 2012;1104–7.
23. Akbarian M, Najafi E, Tavakkoli-Moghaddam R, Hosseinzadeh-Lotfi F. A network-based data envelope analysis model in a dynamic balanced score card. *Math Probl Eng*. 2015;2015.
24. Propa G, Banwet DK, Goswami KK. Sustainable Operation Management Using the Balanced Score Card as a Strategic Tool - A Research Summary. *Procedia - Soc Behav Sci*. 2015;189:133–43.
25. Gabriel TL, Victoria G, Mihaela IT. Balanced scorecard - Strategic management tool of performance in public institutions. *Proc 29th Int Bus Inf Manag Assoc Conf - Educ Excell Innov Manag through Vis 2020 From Reg Dev Sustain to Glob Econ Growth*. 2017;11(1):3372–82.
26. Chang CS, Bonhoure P, Alam S, Hansen P, Burnham G. Use of the Balanced Scorecard to Assess Provincial Hospital Performance in Afghanistan. *World Med Heal Policy*. 2010;2(1):77–100.
27. Khan MM, R. Hotchkiss D, Dmytraczenko T, Zunaïd Ahsan K. Use of a Balanced Scorecard in strengthening health systems in developing countries: An analysis based on nationally representative Bangladesh Health Facility Survey. *Int J Health Plann Manage*. 2013;28(2):202–15.
28. Choudhary PK, Singh MM, Army I. Break-Even Analysis in Healthcare Setup. 2017;(January 2013).
29. Jones KB, Spain C, Wright H, Gren LH. Improving immunizations in children: A clinical break-even analysis. *Clin Med Res*. 2015;13(2):51–7.
30. Shipp M, Croughan-Minihane MS, Petitti DB, Washington AE. Estimation of the break-even point for smoking cessation programs in pregnancy. *Am J Public Health*. 1992;82(3):383–90.
31. Rehana Khurshid¹, Tabish S A², Abdul Hakim³, Khan A⁴ YS. (PDF) Break-Even Analysis of MRI Facility at a Large Tertiary care Teaching Hospital of North India. *Int J Med Allied Heal Sci* [Internet]. 2014;2(2):220–2. Available from: https://www.researchgate.net/publication/263968390_Break-Even_Analysis_of_MRI_Facility_at_a_Large_Tertiary_care_Teaching_Hospital_of_North_India
32. Morgan RO, Bass DM, Judge KS, Liu CF, Wilson N, Snow AL, et al. A Break-Even Analysis for Dementia Care Collaboration: Partners in Dementia Care. *J Gen Intern Med*. 2015;30(6):804–9.
33. Ozminkowski RJ, Goetzel RZ, Santoro J, Saenz BJ, Eley C, Gorsky B. Estimating Risk Reduction Required to Break even in a Health Promotion Program. *Am J Heal Promot*. 2004;18(4):316–25.
34. Miyagishi S, Asakawa T, Nishida M. Influence of external environment on microviscosity in micelles. *J Colloid Interface Sci*. 1987;115(1):199–205.
35. Gupta A. Environmental and pest analysis: An approach to external business environment. *Int J Mod Soc Sci*. 2013;1(2):34–43.
36. Karakiewicz B. An analysis of the functioning of mental healthcare in northwestern Poland An analysis of the functioning of mental healthcare in northwestern Poland. 2017;(August).
37. Bażydło M, Karakiewicz B. An analysis of the functioning of mental healthcare in northwestern Poland. *Pomeranian J life Sci*. 2016;62(4):33–40.
38. Abdullah MN, Shamsheer R. A Study on the Impact of PEST Analysis on the Pharmaceutical Sector: The Bangladesh Context. 2011;7(12):1446–56.
39. Kuznetsova NV, Rahimova LM, Gafurova VM, Simakov DB, Zinovyeva EG, Ivanova LA. External environment as a factor of ensuring the competitiveness of organizations in the regional market of medical services. *Eur Res Stud J*. 2017;20(4):308–22.
40. Sassi M, Haldma T. Factors affecting strategic management attitudes and practices in creative industries organisations. *Encatec J Cult Manag Policy* [Internet]. 2017;7(1). Available from: https://www.encatec.org/media/3723-6_encactvol-7_marge-sassi_ulle-pihlak-toomas-haldma.pdf

41. Tresna PW. External and Internal Environment Analysis (A Study in Tasikmalaya City Embroidery Industry). *Rev Integr Bus Econ Res*. 2017;6(1):401–11.
42. KARA E. A Contemporary Approach For Strategic Management in Tourism Sector: PESTEL Analysis on The City Muğla, Turkey. *J Bus Res - Turk*. 2018;10(2):598–608.
43. Abd Ghani KD, Nayan S, Mohd Ghazali SAIS, Shafie LA, Nayan S. Critical internal and external factors that affect firms strategic planning. *Int Res J Financ Econ*. 2010;51(October 2010):50–8.
44. Hidayat R, Hudha K, Akhmad S. Effects of Supplier-Manufacturer Relationships on Supply-Chain Performance of Manufacturing Industries in Indonesia. *Makara J Technol*. 2015;19(2):51.
45. Kiptoo JK, Mwirigi DFM. Factors That Influence Effective Strategic Planning Process In Organizations. *IOSR J Bus Manag*. 2014;16(6):188–95.
46. Sarkis J. A strategic decision framework for green supply chain management. *J Clean Prod*. 2003;11(4):397–409.
47. Noh JW, Kwon YD, Yoon SJ, Hwang JI. Internal and external environmental factors affecting the performance of hospital-based home nursing care. *Int Nurs Rev*. 2011;58(2):263–9.
48. Mosadeghrad AM. Factors affecting medical service quality. *Iran J Public Health*. 2014;43(2):210–20.
49. Cole GE, Holtgrave DR, Ríos NM. Back to CDCynergy Resources 2 INTERNAL AND EXTERNAL FACTORS THAT ENCOURAGE OR DISCOURAGE HEALTH-RELEVANT BEHAVIORS. :1–23.
50. Pascuci LM. Strategic Management in Hospitals : Tensions between the Managerial and Institutional Lens. 2017;2017(July):1–21.
51. Wong KM, Velasamy P, Tengku Arshad TN. Medical Tourism Destination SWOT Analysis: A Case Study of Malaysia, Thailand, Singapore and India. *SHS Web Conf*. 2014;12:01037.