

IMPLEMENTING BUSINESS MODEL IN HOSPITAL: A SCOPING REVIEW

Lastris Swastanita¹, Amal Chalik Sjaaf²

¹Hospital Administration Studies Program, Faculty of Public Health Universitas Indonesia, Depok

²Health Administration and Policy Department, Faculty of Public Health Universitas Indonesia, Depok

Email: lastriswastanita@gmail.com, amal.c.sjaaf@gmail.com

Abstract

Increased competition between hospitals, population growth, advances in medical technology, increased life expectancy, and digital transformation urges hospitals to adapt. Health care providers are stuck in situations that require cutting health costs while still maintaining the quality of care to patients. Many believe that the business model will be a major contributor to the sustainability of competitive advantage for hospitals. This research aimed to look at the role and application of hospital business models that can maintain quality, effective financing services, and sustainability. Searches for articles were conducted on four databases using PRISMA-ScR protocol. We included studies containing the business models in a hospital setting, using relevant search terms related to the hospital business model. Systematic search yielded five articles that lay out some of the business models. Sixty percent of articles were published in Asian countries. Study designs were descriptive and observational studies. Each business model has its uniqueness that can give an idea of how to run a business model tailored to the characteristics of the hospital itself.

Keywords: hospital, business model, business strategy

Introduction

Since the beginning of the 20th century, the performance of health services has become increasingly important and consists of several dimensions, namely quality, finance, experience, and security. As the population grows, increases longevity, digitalization, and many inventions of medical technology quickly push hospitals to be more adaptable (Ilin et al., 2018). Shifting from hospital centered to patient-centered that focuses on patient satisfaction as a core value of service is more likely to achieve greater quality and profitability (LaPointe, 2018; Lee, 2017). In the midst of this intense business competition, for almost 3 years hospitals were faced with the problem of Coronavirus Disease-19 (COVID-19). World Health Organization (WHO) said that until April 2021, COVID-19 still caused disruptions to hospital performance in 90% of countries. Although this disruption has decreased, the results of the WHO survey show that hospitals still need to increase efforts and take strategic steps to reduce the gap and strengthen the quality of

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services (WHO, 2021). Hospitals are required to prepare the right business strategy to maintain their existence amid the global market competition in the hospital industry (Lee, 2017).

Market pressures in emerging economies and global economic recessions are forcing hospitals to innovate their business models (Casadesus-Masanell & Ricart, 2011). A business model is a simple picture of the actions that lead to value-added products and services. It can be interpreted as the process of creating value as a blueprint of a company's activities aimed at sustainable company growth (Osterwalder & Yves, 2010). Business model helps an organization to create, capture, and deliver its value to the customer. In this era, a business can survive if it can generate and retain customers and make adjustments to market changes by carrying out market-oriented strategic planning (Armstrong et al., 2014).

Implementation of a business model in a hospital is believed can increase patients' loyalty and maintain a sustainable business environment. Every hospital has its own characteristics and runs the specific activities based on the organizational culture, surrounding conditions, etc. Innovation must be in line with the need of the customer and every community has its own uniqueness (Ilin, 2018). There are many types of business models. This scoping review tried to find any business model implemented in hospitals in order to help every stakeholder to understand and choose the appropriate business models for their hospital. The specific objectives were: (1) to gather and describe the business models or business strategies which could be applied in hospital, (2) To evaluate any impact of the business models on hospital performance.

Methods

This review was carried out with the Preferred Reporting Item for Systematic Reviews and Meta-Analyses Extension for Scoping Review (PRISMA-ScR) protocol to create a brief summary about hospital business model. The selected articles were a full-text English article published over the past 5 years without any exclusions of country. In addition, a search of the list of references in articles that entered the inclusion criteria was also carried out to find whether other studies were related to this research.

This review used term "hospital", "business model", and "business strategy" on several databases (Pubmed, ScinceDirect, EMBASE, and EBSCOhost). Boolean operators were used to help the search. Then the studies were imported and any duplications were removed by using Mendeley application (Version 1.19.8). Each study was screened based on the title and abstract according to the criteria aforementioned. All of the studies that met the inclusion criteria were downloaded for the full text articles. The full text articles must contain information about business model in hospital and give some information about its impact on hospitals.

Result and Discussion

Five out of 270 studies identified in literature search were eligible to include in the review. Five articles included explain business models which has been applied in

hospital or could be applied in hospital. Publication countries vary mostly from Asia (Iran, Singapore, and India), the rest was from USA and Canada. Most of them are located in developing countries. Study design of the articles were descriptive and observational studies. Figure 1 shows the process of data synthesis and Table 1 gives summary of the obtained articles.

Over fifty years the term of business model has been used in academic text. Entering the 20th century, business model is used to make innovative strategic decision. A business model is a framework for how a company creates the "value" that it wants to convey to customers, to maintain the sustainability of the business itself. Health experts are passionate about creating value for patients, simultaneously improving quality and cutting service costs. Many believe that the business model will be a major contributor to the sustainability of competitive advantage for hospitals (Casadesus-Masanell & Ricart, 2011).

The development of the hospital business today requires innovations that must be constantly updated to maintain the continuity of the hospital's business activities. Some of the articles found in this scoping review show how a business model can determine the sustainability of a hospital business.

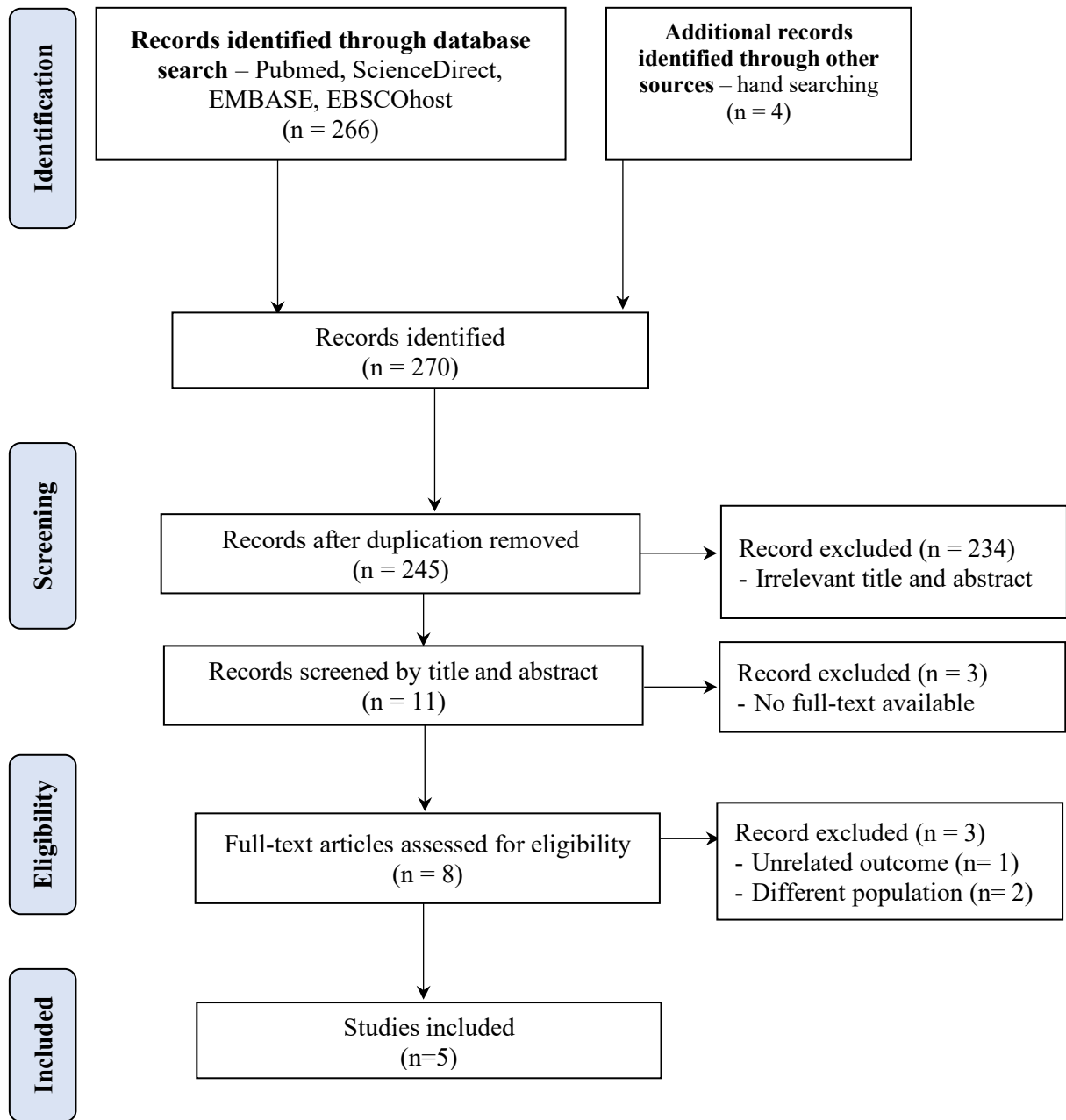


Figure 1. PRISMA Flow Diagram of Selection of Scoping Review

Table 1. Description of Business Model

Author (Year)	Country	Business Model	Descriptions	Result
(Gupta et al., 2018)	India	Cross-subsidization business model	Business model of Arvind Eye hospitals, a non-profit hospital in India. It carries out a marketing strategy i.e., eye screening outreach camp (for cataract) targeted rural poor patient to attract paying patient. Those who qualified for surgery, were brought to the hospital and treated for free. The spill over benefit from paying walk-in patient subsidized "free section" walk-in patient at hospital.	Camps gives significant positive effect on the number of paying walk-in patient and subsidized patient. Price for "paying section" cataract surgery range from US\$100 - US\$700. Subsidized patients are not charge any consultation fee and admit for cataract surgery pay approximately US\$12. The incremental revenue to Arvind from a camp exceeds the incremental cost of organizing a camp.
(Southernland et al., 2020)	USA	Business model of Geriatric Emergency Department	Midwestern academic hospital runs GED program that put geriatric staff and equipment in ED. This study compares 2 parameters of operational and patient safety rate before and after the GED. Operational metrics include patients' length of stay >8 hours and patients placed in observation.	Comparing 2 years before and after, operational metric proportion did not change. Patient safety metrics show rate of falls decreased from 0.60/1,000 patient visits to 0.42/1,000 in ED observation unit and 0.42/1,000 to 0.36/1,000 in the ED. Cost saving from the improvement of fall rate was US\$80,328.
(Miremadi & Goudarzi, 2019)	Iran	Moheb's business model	Moheb's business model adapts public-private partnerships (PPP) to address the problem of high-cost healthcare. Leading factor of their value proposition is patient centricity. Moheb as nonprofit hospital establish partnership with Shahid Hasheminejad public hospital to create synergy, increase efficiency, and minimize shortcomings and errors.	Moheb PPP business model has been implemented in Iran and can be applied in developing country. PPP causes not only less financial burden on patient but also cost reduction and increase patient satisfaction.

(Wirtz & Zeithaml, 2018)	Singapore	Cost-effective service excellence (CESE)	CESE strategies pursued by: 1. Shouldice hospital: self-service technology and focused on simple external hernia surgery 2. Narayana Health: dual culture strategy (high quality-low-cost service) and focused on cardiac surgery	1. Shouldice hospital has 50-75% lower cost than general hospital, failure rate equal to 1/6th to 1/12th of industry average, and is one of the top 10 global hospital by healthcareglobal.com 2. Cost of open-heart surgery in Narayana hospital is about US\$800. Mortality rate 30 days after open heart surgery 1.4% vs 1.9% in the US.
(Sibalija et al., 2021)	Canada	Business Model Canvas (BMC)	The study was conducted in a large hospital in southwestern Ontario on how BMC is applied in drug prescribing services by doctors based on pharmacogenomics to avoid unexpected side effects. BMC stimulates thinking about how a value is created and held back in the future.	BMC is a tool that can be used in the field of health services and is very worthy of consideration to be used as a business model.

Social Business Model

Two studies discuss about social business model in developing countries, India and Iran. The former study (Aravind Eye Hospital) tried to reach out rural poor patient by out-reach camp, giving them free service for cataract surgery. The benefit from paying patient who came to the hospital was subsidized to “free section” walk-in patient. Aravind Eye Hospital implements a business model of collecting operating costs and a charitable model to help underprivileged patients.

Because of this policy, Aravind Eye Hospital experienced an increase in visits so that it generated profits which were then used for business expansion (Gupta et al., 2018). Study from Moheb hospitals in Iran collaborate public and private hospital. This public-private partnership (PPI) makes public sector patient using the facilities of private hospital at the same price of public sector service (Miremadi & Goudarzi, 2019). Both of the study shows a good outcome in cost reduction, patient satisfaction, and incremental revenue (Gupta et al., 2018; Miremadi & Goudarzi, 2019).

Cost-effective Service Excellence (CESE)

One study integrate literature to make a concept of service excellence at low unit costs. Two hospitals i.e., Narayana Health in India and Shouldice Hospital in Canada achieve CESE by focusing on only one surgical service, cardiac and simple external hernia surgery respectively (Wirtz & Zeithaml, 2018). Narayana Health Hospital has high bargaining power due to its high market share. Narayana Health Hospital performs 12%

of the total open-heart surgery in India. The achievement is in low-cost heart surgery and lower mortality than in the United States.

Shouldice Hospital provides operate services without general anesthetic for simple external hernia cases. Their target market is "healthy" patients who do not require medical attention outside of hernia surgery and those who can serve themselves in hospitals (self-serve). Before the surgery is performed, the patient is asked to meet patients who have been in previous surgery to foster confidence and reduce counseling time with doctors and nurses. Shouldice Hospital can lower medical costs by 50-75% compared to general hospitals (Wirtz & Zeithaml, 2018).

Business Model of Geriatric Emergency Department

Midwestern academic hospital with annual volume of more than 80,000 ED visit and twenty percent by adult over 65 years, runs GED program that put extra staffs and geriatric equipment in ED. This innovation brings cost saving from the improvement of fall rate (Southerland et al., 2020). This kind of business model can be applied in hospital which dominated by geriatric patient.

Business Model Canvas

One article provides a detailed description of how BMC is used and adapted to understand physician responsibilities and challenges related to prescriptions and drug doses, and how health facilities can meet physician needs and create value by mapping services to physician needs and desires. The broader use of the BMC framework can clarify customer needs, make offers that have added value, and create and capture the selling points that exist in the healthcare and patient care systems (Sibaliya et al., 2021).

One of the innovations in developing business strategies that can be an example is elderly services. Vietnam's study of 33 healthcare services explains how they tried to map out business strategies using four elements within BMC to deliver added value to older customers.

The study analyzed and summarized the differences in healthcare providers in proposing their value-added strategies based on distinguishing these four model categories: (i) residential and co-residence care models, (ii) Home care and living in place models, (iii) community e-business experience models and (iv) virtual and physical portable device models. The goal is none other than to meet the daily needs of the elderly population in maintaining its health (Yang et al., 2020).

More broadly, research on two of the best healthcare system providers in Germany and America shows how a social business can create social value that leads to high-quality health care. BMC is used as a framework for comparing the two organizations. The results show that BMC offers the right conceptual framework for generating and analyzing complex systems for interactive healthcare systems (Sabine et al., 2020).

Business model is made based on organization's need. Because business model eventually will be translated into strategic business planning, so every hospital has to analyze "where the current position of the hospital is". The analysis of this situation is a very important stage because it will generate a lot of data and information. For this reason, a good management of data and information is needed by categorizing the internal factors

of the organization as weaknesses and strengths and external factors of the organization as opportunities and challenges. When we already know our position, we can decide what kind of strategy will be developed (David & David, 2017; Dumilah, 2020).

We choose the best business model based on the vision of our organization. We can combine BMC with social-oriented business to accommodate triple bottom line business model: the Social Enterprise Model Canvas. Additional two building blocks to serve the outcome: (1) social and environment cost of business model and (2) social and environment benefit of business model (Sparviero, 2019).

Conclusion

With the development of the hospital business and the increasing competition in the hospital industry, it is a challenge for the hospital to develop its business strategy. Business model is a framework to make innovative strategic decision. To maintain its business continuity, hospitals need to update their business models following developments in the external environment. The selection of a business model must consider the internal and external conditions of the hospital.

This scoping review obtained several studies about business model implemented in hospital. Those business models were social cross subsidization business model, Moheb's public-private partnerships (PPP), business model canvas, Cost-Effective Service Excellence, and business model of geriatric emergency department. Every business model in this scoping review, is developed with some consideration about the hospital location, its core business, and most importantly its customer.

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