THE PERFORMANCE OF SLOVENIAN HOSPITALS: THE DEVELOPMENT OF SUSTAINABLE BUSINESS MODEL

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Abstract

Due to the Covid-19 epidemic, the Slovenian Government ended the project of rehabilitating Slovenian hospitals that showed negative financial operations by the end of 2016. The special Government Act provided one-time financial compensation and simultaneously tasked the hospitals with preparing rehabilitation programs. A case study applied the rehabilitation programs of 12 Slovenian hospitals and interviews with the directors of individual hospitals to collect data. In-depth analysis revealed several shortcomings that were identified and addressed with measures outlined in the rehabilitation programs. Most of them extend to the areas of activity, financial operations, and health services. The study results suggest that the transformation of the current operating mode of Slovenian hospitals in the direction of creating a sustainable business model would require the definition of sustainable objectives, reorganization and coordination of various institutional factors, and the support of such reform through normative and other systemic measures.

Keywords

Slovenian Hospital, Rehabilitation Program, Business Model, Transformation, Case Study

I. Introduction

In recent years, Slovenian public health has been a very prominent topic, both politically and professionally. Even though with 7.9% of GDP expenditure on health in Slovenia is slightly below average relative to the OECD average (8.8% of GDP), the system is at a high level in terms of many non-financial quality indicators. The public health system is one of the country's most critical sectors, as the health of individuals directly affects aspects of the economy such as productivity, the supply of work and human capital. The ageing population and the increase in the number of chronic non-communicable diseases and cross-border epidemics (like Covid-19), along with the simultaneous progress of medicine, increases health-care expenditures (OECD, 2020).

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The governments of many countries are facing the challenges of improving the efficiency of the management of public health systems with an emphasis on more restrictive financing and reducing the costs of the system. Political solutions are reaching for various measures; from increased financing of the public health system to reforms of the management system, organizational structures and business processes (Anessi-Pessina and Cantù, 2016, Durán and Wright, 2020, Sorin, 2015). The evermore frequent calls from experts and researchers in the healthcare field highlight the need for reforms to encompass the complete renewal of the so-called healthcare system business model. The business model concept represents a collection of components and their roles and mutual connections, which in connection with the information flow and business processes implementation build the added value for all stakeholders of the business system or organization (Valeri et al., 2010, Angeli and Jaiswal, 2016, Fredriksson, 2018).

The business model therefore defines the structural and functional aspect of the organization of a certain business entity, with the goal of creating or increasing the added value in any form. It is one of the significant factors in the creation of the strategic goals of an organization, as it enables the development of the logical operations framework.

Past research evidently often addressed one or two aspects of the hospital business model. A complete hospital business model has rarely been discussed or analyzed. The business organization model became the subject of broader studies and research in the previous years (Thompson and MacMillan, 2010, Massa et al., 2017). Researchers (Malone et al., 2006, Yip, 2004, Hedman and Kalling, 2003, etc.) claim that the need to investigate the critical factors of success and mechanisms for creating the added value is growing, since more and more organizations realize that their comparative advantages and consequently business performance depend on business “know-how”, innovations, human resources, business processes, quality of services and products, relations with clients and other non-tangible factors. Parallel to the increased interest in business success factors, the entire business model concept, namely described as the “operating mode” was of great interest. In general, the business model can therefore be defined as a set of related factors that determine the organization operation mode or factors on which the organization bases its business success, be it the quality and uniqueness of their products or services (Hansen and Birkinshaw, 2007) or their cost efficiency that enables them to successfully achieve their long-term business goals (Thompson and MacMillan, 2010, Chesbrough and Appleyard, 2007).

The healthcare reform is becoming a social imperative, which will require a more comprehensive and innovative approach in the coming years from the creators of healthcare policy. One such approach includes the analysis of the current operation of Slovenian hospitals through the prism of the concept and main components of the business model and the identification of key weaknesses of the current situation. This would be followed by the transformation of the existing operating modes of Slovenian hospitals in the direction of creating an appropriate business model that should enable the effective and balanced sustainable operation of Slovenian hospitals. In accordance with these starting points, this article focuses mainly on the following related research objectives:

1. Examination of the business model concept and identification of shortcomings in the operation of Slovenian hospitals, viewed through the prism of the business model,
2. Presentation of the guidelines for transforming the current operation of Slovenian hospitals in the aim of creating a business model that should ensure the sustainable operation of Slovenian hospitals.

Following the introduction, the second chapter of this article focuses on the assessment of the previous studies and the literature review and it drafts business model concept and the model's role in modern organizational systems. The third chapter outlines the methodology, while the results of the analysis are presented in the fourth chapter. The discussion, connecting theoretical concepts and results from previous studies with the results of our research, is presented in the fifth chapter, which is followed by the conclusion in the sixth chapter.

II. Literature Review

Sandberg (2002) describes the business model as a network of factors and their mutual relationships and processes, as well as a network of cause and effect relations that produce added value. He claims that the comprehensive business model must identify the desired users, articulate the comparative advantages of an organization, define the product and services range and evaluate the cash flow, estimated profit and organizational risks that are connected with it. In connection with the latter definition, Bell et al. (1997) also identified six components of the business model: external factors, markets, business processes, connections, key products and services, and users. In their study of the business model, Bell et al. (1997) focus mainly on the mutual connection of the activities performed within the business subject framework, on external factors that influence the business subject and on business relations with individuals and other organizations outside the business subject.

In the late 1990s, the business model concept became a synonym for the reorganization of operations, implementation of new information technology (IT) and the so-called new economy. The development of new organizational paradigms, process approaches, and an overall tendency to increase the efficiency of both private companies and the public sector encouraged the development of several new business models and put the business model concept at the center of attention (Hedman and Kalling, 2003). Despite the growing interest of both the research and academic community and a reasonably wide range of literature that focuses on the study of business models from different angles, there is no generally accepted definition of the business model, and the theoretical backgrounds of the whole concept are also not well defined (Pateli and Giaglis, 2005). Moreover, the definitions of the concept differ widely between each other, as they approach the examination of the business model from a number of different perspectives. From the available literature, four main aspects of studying business models can generally be identified, namely: organizational changes and new organizational forms, organizational connections (internal and external), renewal of business processes and activities, value chains and value networks. Although business model structures differ in their number of components, their

characteristics and relations between them, it is possible to determine components that appear in the majority of generic business models. These are services/products supply, customer groups/market segmentation, business/communication channels, customer relations, business processes/activities/value configuration, key resources/capabilities, business partners/partner network and costs/expenses (Valeri et al., 2010, Yip, 2004, Osterwalder, 2002). Osterwalder (2002) studied the business model structure and analyzed potential influences of the business model transformation on the organization's business success and he discovered a positive impact of the business model transformation on the success and efficiency of the organizational systems. In light of achieving the organization's strategic objectives, the transformation of the business model should include changes of the key components of the business model and the relationship between them: infrastructure management, product/service, customer interface, and financial aspect (Figure 1).

Figure 1: Generic representation of the business model

Source: adapted from Osterwalder (2002)

The biggest issue facing modern health systems is the increasing gap between costs and disposable revenues. There is a trend of rising costs due to a deterioration of the demographic landscape, the emergence of state-of-the-art technologies, modern treatment methods and new drugs, as well as the ineffective financial management of health institutions (Anders and Cassidy, 2014).

In past decades, the health policies of some countries (e.g. Finland) shifted towards decentralization of systems, others (e.g., Croatia) towards privatization or towards reorganization with the use of subcontracting services, such as in Poland (Jovanović, 2020). Constant searching for solutions to provide more efficient and effective provision of health services to the population was present in all systems, while the trend towards re-centralization of at least some functions has spread enormously (Mauro et al., 2017). This trend is commonly interpreted as mere cost reduction. Health systems are reaching for the financial

reorganization of existing hospitals, their pooling and the closure of smaller hospitals (Christiansen and Vrangbæk, 2018). Efforts for the rehabilitation of hospitals have included different measures; from intervening in operational efficiencies to measures in the field of health services content and their quality. In the reorganization of Italian hospitals, which started in February 2016, it is planned to reduce the total loss of hospitals, amounting to EUR 1.4 trillion over a three-year period, which will be achieved through several measures. The closure of hospitals with fewer than 15 beds and the rationalization of hospital staff recruitment and medical technology are expected to have the most significant impact (Mauro et al., 2017).

III. Methods

In methodological terms, the study is designed as a case study and during the implementation of the entire study; the already established methods used in social sciences will be utilized. The study will initially be based on the analysis of primary and secondary sources, but later on, it will link theoretical and practical findings from the discussed field. The methodological framework is adapted for the interdisciplinary nature of the studied problem (Patton, 1990) and it enables a comprehensive analysis of the previous studies of the business model, a synthesis of research findings (Yin, 2003) and the presentation of starting points for the development or transformation of the business model.

The problems of the Slovenian healthcare system have been accumulating for years. Still, they gained political and media attention after 2015, when financial data highlighted the seriousness of the problem. The result of the alarming situation in Slovenian hospitals showed not only on paper (negative operating and financial results) but also in the day-to-day business operation (non-delivery of materials and medicines, late payments of salaries, rise of waiting times for healthcare services for patients, etc.). Consequently, the Government of the Republic of Slovenia adopted the ZIUFSZZ and issued a Decision with which it ordered hospital financial recovery. The Act envisaged one-off measures, the most important of which was a one-off cash transfer (EUR 136.24 million) to hospitals, which have had a surplus of expenditure over revenue. In addition, the Act also foresaw as a one-off measure a write-off of unpaid obligations of the Ministry of Health from the amalgamation of depreciation and enabled the extension of payment deadlines to more than 60 days.

In addition to one-off measures, the ZIUFSZZ also laid down an obligation for rehabilitation management boards in hospitals to prepare rehabilitation programs to ensure operational (positive accounting result based on the application of the accounting principle) and payment (a positive financial result based on the cash flow principle) stability. Rehabilitation programs were previously discussed by the council of the institution, then the Rehabilitation Committee, as a specialized expert consultative body, which recommended the programs to the Ministry of Health for their approval. The approved rehabilitation program was the basis for the adoption of annual work programs and financial plans for public hospitals, including personnel plans for 2019. Besides this, the Ministry of Health additionally requested that rehabilitation programs were also updated in 2019.

Our research focuses mainly on the analysis of the 15 hospital rehabilitation programs, determining the measures for balancing business operations without affecting the quality and safety of healthcare services. This unique feature of the Slovenian legal order has been expected to implement long-term measures at different execution levels and/or organizational units without additional public budgetary funds, including the quality and safety of healthcare at the same level. In 2019, the rehabilitation programs were renewed, focusing mainly on the conciseness and comprehensiveness of the proposed measures and their financial assessment. Meanwhile, three hospitals (the Institute of Oncology, Izola Hospital and Jesenice Hospital) have concluded the rehabilitation process due to the improvement of their respective financial positions. On the other hand, the Ministry of Finance has not accepted the rehabilitation program of the Nova Gorica Hospital, but we nevertheless used the data from the rehabilitation documents, as we wanted to gain the widest and deepest possible insight into the problems in the field.

Our analysis is based on an in-depth review of the rehabilitation programs of 12 Slovenian hospitals, which were obtained from the Ministry of Health in March 2020. This involved a long and complex procedure to obtain documents that had not been shared with public before our inquiry. The intensive engagement of Ministry of Health in tackling the Covid-19 epidemic during that period presented an additional challenge. Having obtained the requested information, we are able to start intensive analysis of the documents. The materials contained between 1,400–1,500 pages, which contrary to the proposed structure from the Ministry of Health differ enormously from each other.

In addition to the analysis of written rehabilitation programs, interviews were also conducted with individual directors of the hospitals involved, with whom we wanted to clarify certain ambiguities and open questions regarding certain proposed measures.

The research approach was based on collecting all the measures and classifying them in groups according to the components contained in the general hospital business model. This process of classification was undertaken in three stages. In the first stage, we classified the measures in wide groups mapping them to the business model components. In the second stage, we re-assessed the measures within those groups to clarify their content and potentially conduct their re-grouping. In the third stage, the content of each measure was evaluated consulting the explanations in the rehabilitation program. The review, segmentation and consolidation of all 452 measures resulted in the data presented in Table 1.

IV. Results

Examination of the business model concept and identification of shortcomings in the operation of Slovenian hospitals

Among the causes of the unfortunate financial situation, the Ministry of Health, as the proponent of the Act, cited several State austerity measures during the crisis. Those measures deprived the healthcare system in period of 2008 till 2016 for EUR 1.55 billion; and refer to a) reduction of the prices of health services charged to the Health Insurance Institute of Slovenia (HIIS) by 2.5% in 2009, by 3% in 2012, and by an additional 3% in 2013, b) increase of expenses due to public sector wage system reform, which significantly increased labor costs in hospitals, c) multiple reductions in technical and administrative staff, the price of services, recognized depreciation, reduced funding for the tertiary segment, etc. (Ministry of Health, 2017).

In view of the above-mentioned initiatives for reform and reorganization of hospitals that mostly touch upon at least one segment of the business model concept, a summary table (Table 1) is presented below and it includes an analysis of the measures of all rehabilitation programs. We analyzed the proposed rehabilitation measures, systematized their content and organized them according to the business model components to which they belong. During the course of the study, the summary table was used as a starting point for transforming the current operation of Slovenian hospitals in the aim of creating a business model that should ensure the sustainable operation of Slovenian hospitals.

Table 1: Generic business model components

Business model aspects	Groups of measures	Number of measures
Infrastructure management	Key activities	171
	Key resources	34
	Key partners	11
Product/service	Value proposition	49
Customer interface	Customer relationships	9
	Customer segments	15
	Channels	3
Financial aspect	Revenue streams	53
	Cost structure	107

Source: own, based on Osterwalder (2002)

The content systematization and analysis of measures presented in the rehabilitation programs enabled the identification of shortcomings of the current operation of Slovenian hospitals viewed through the prism of the business model that is presented below.

The analysis of measures presented in the rehabilitation programs showed that most of the measures (171) pertain to the process or activities. The highlighted measures address the aspect of the processes or activities from different and various viewpoints. The number of proposed measures in this sense is not surprising, since healthcare is an extremely process-intensive industry on the one hand, and on the other hand, the field was drastically changed in the past decades due to the implementation of different organizational and process concepts, information technology, normative or regulative changes, and development of several sub-specializations. Given that processes or activities within the healthcare field represent the central part of its operations, it is not surprising that many of the highlighted measures also refer to other components of the business model. From this viewpoint, the large number of proposed measures is very complex and difficult to financially evaluate, which makes their realization very demanding, lengthy and requires the involvement of agents who go beyond the healthcare system frames.

Measures that address the stakeholder component generally highlight the insufficient or poorly coordinated cooperation between different hospitals and all problems that arise because of it. These weaknesses are frequently reflected in the reverse direction and influence the efficiency of processes and activities or the quality of treating patients. It should be noted that good cooperation between stakeholders also involves non-medical activities that include administrative, logistic and other matters, which ultimately also affect the business performance of hospitals. Moreover, the lack of cooperation between stakeholders has a poor influence on the rehabilitation of existing hospital capacities and other healthcare system potentials. The latter means that the already poor resources in the healthcare system are not sufficiently used, which leads to senseless or irrational use of public financial resources and less quality or lengthier treatment of patients. It is important to bear in mind that the most important healthcare resource is the personnel who need to be constantly cared for in the sense of ensuring their sufficient number, adequate wages and constant education and training. The reasons for such shortcomings are often rather bureaucratic in nature, which means that there is a need to review the normative bases or the regulative framework of this area.

The proposed measures in the field of healthcare services and products tend to address a more rational definition and standardization of clinical aspects of performing healthcare services and providing products. Thus, the rehabilitation programs highlighted primarily the issue that the hospitalization time is too long, the implementation of a larger number of ambulatory care of patients and stricter limitations in the patient intensive care. According to the proposal of healthcare professionals, the complete range of healthcare services and products should include the majority of services required by patients, and they would reduce the number of times patients are sent to other hospitals or clinics. In the implementation of healthcare services and products, it is necessary to obtain sufficiently large programs and resources, with the aim of reducing waiting times and the number of waiting patients. All proposed measures in this field must contribute to maintaining or increasing the quality and safety of medical treatment.

Given that the operation of Slovenian hospitals is financed by the income from citizens' compulsory health insurance, for which over 2 billion euros are used in Slovenia, all measures must consider the patients' needs and contribute to the reduction of the burden caused by diseases in accordance with the national public healthcare guidelines. In accordance with this, the compulsory health insurance package must provide a sufficiently wide range of the most important healthcare services that are performed in a timely and qualitative way. At the same time, they must not undermine the financial sustainability of the system and they must not cover the services that according to expert evaluation do not belong to the compulsory health insurance package. The performance of healthcare services requires consistent implementation of the Patients' Rights Act and other sector codes that in any way affect the processes and results of the medical treatment. However, no less attention must be devoted to the active inclusion of patients in the care for their health, their full rehabilitation and the periodic review of their satisfaction or their comments on the performed services. In each aspect of evaluating the healthcare benefits, it is important to keep in mind the numerous factors that indirectly affect the patient's satisfaction and are not related to the quality of the healthcare service. Here, we refer mainly to the accompanying infrastructure, well-being, friendliness of healthcare workers and similar aspects. Outside the compulsory health insurance package, other (self-funded) services not covered by compulsory health insurance must be advertised and those services must be suitably promoted and adequately supported with marketing campaigns. Assets received from self-funding patients can be an important addition to the budget, and they can represent an important development impulse, both for healthcare workers and for the institution as a whole.

The financial component of the business model encompasses all those measures that directly affect finances, either on the revenue or on the expenditures side of the model. As mentioned, a number of measures within other components (activities or processes, patients or users and healthcare services or products) also indirectly affect finances, even though those effects are difficult to evaluate. The analysis of measures classified as the financial component of the hospital business model showed that these measures most frequently highlight the need to implement the health programs in full with regard to the plan and the possibility of their flexible adjustment in the course of a year. These measures revealed the need to improve the system of codification in the billing of healthcare services to the Health Insurance Institute of Slovenia as well. On the expenditures side, the most frequently occurring measures are those for reducing the days of binding or reducing the stock volume of medical materials and medicines, more precise monitoring of their use and the accounting monitoring of treatment cost per patient. The latter would allow the more precise monitoring of consumption or costs of various elements of the business process on the one hand, and on the other hand, it would provide a starting point for comparing the cost price of services with the price paid by the health insurance company for the provided services.

Examination of the business model concept and identification of shortcomings in the operation of Slovenian hospitals

Successful management is the primary concern of all performance-oriented business models. While private sector organizations primarily focus on the financial objectives of a narrow circle of stakeholders, particularly owners, public sector organizations have a more significant number of pledged goals and interested stakeholders. Thus, public hospitals as public healthcare providers are faced with more challenges than private hospitals, leading to a higher risk of financial difficulties. Despite the differences, the objectives of all hospitals are to achieve economic and organizational continuity, settle due liabilities and ensure positive cash flow for future investments while ensuring high-quality services (Zheng et al., 2019).

Research shows that the process of transforming business models in organizations is implemented in almost all economic areas and the public sector nowadays, thereby significantly affecting the restructuring of organizations and the changed socio-economic conditions. As mentioned above, there is much talk in expert circles about changes in traditional business models, their transformation and the future of modern business models. Accordingly, this study aimed to present the guidelines for transforming the current operation of Slovenian hospitals based on the study of the business model concept, the current shortcoming in the operation of Slovenian hospitals that are listed by the rehabilitation programs and other studies that address a similar problematic. Guidelines for the transformation of the current business model for Slovenian hospitals (although the term business model is rarely used in the Slovenian healthcare system) that aim at creating a business model that should ensure the sustainable operation of Slovenian hospitals are presented in the following table (Table 2).

Table 2: Guidelines for transforming the current operation of Slovenian hospitals in the aim of creating a sustainable business model

Generic BM aspects	Generic BM components	BM aspects adapted to the healthcare sector	BM components adapted to the healthcare sector	Transformation of the existing BM components
Infrastructure management	Key activities	Infrastructure management	Key processes	<ul style="list-style-type: none"> * Renewal and standardization of clinical pathways in individual hospitals as well as at the level of the entire healthcare system * Better planning and coordination of the medical treatment of patients * Change of the hospital organizational structure in accordance with the process orientation of the operation * Improved work organization, including performance measuring and a more even distribution of work * Monitoring the quality of the performed services in accordance with the standards and norms in all stages of medical treatment of patients; * Creation of the hospital development strategy and definition of the measurable strategic goals * Provision of conditions for the improved work performance of healthcare professionals and the healthcare administration * Renewal of procurement processes (framework agreement) and establishment of better mechanisms for monitoring the material consumption and ongoing monitoring of costs (revenues/expenditures) on all sides; * Improvement of processes for proper recording (codification) of performed services, their billing and establishment of the single healthcare administration; * Encourage activities for the permanent education of employees and the creation of an appropriate personnel policy (in accordance with the needs of the hospital) * Introduction of innovative IT solutions for automatic communication with stakeholders and monitoring of all parameters of the current business operation and the med-term hospital planning * Improvement of the internal revision processes and compliance with the recommendations in the revision findings * Improvement of the processes of circulating, substituting and offering the assistance of all workers in other work areas within a hospital

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Generic BM aspects	Generic BM components	BM aspects adapted to the healthcare sector	BM components adapted to the healthcare sector	Transformation of the existing BM components
				<ul style="list-style-type: none"> * Overtime realization, medicine consumption, consumption of medial and non-medical material, energy sources and other categories that directly or indirectly increase the operating costs * Strengthening and encouraging processes for permanently strengthening the areas of quality and safety in all healthcare treatments
	Key resources		Key resources	<ul style="list-style-type: none"> * Employment of physician specialists and nursing staff according to process needs; * Reconstruction of existing and acquisition of new infrastructural capacities * IT infrastructure and improvement of IT skills * Increased use of organizational capacities and equipment – monitoring the utilization of expensive medical equipment and operating theatres
	Key partners		Key stakeholders	<ul style="list-style-type: none"> * More efficient cooperation between institutional stakeholders concerning administrative, financial, and other non-medical issues (unified and joint procurement, maintenance of equipment and inventory, cleaning and laundry services, premises management, etc.) * Better organized and coordinated cooperation with other healthcare professionals in the horizontal and vertical direction in ensuring the medical treatment of patients
Product/service	Value propositions	Healthcare services/products	Value propositions	<ul style="list-style-type: none"> * Providing quality and safe services and thus preventing early return of patients * Increasing the ambulance services in volume * Shortening the length of stay of inpatients * Enlarging the number of clinical services and products and consequently reducing waiting periods

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Generic BM aspects	Generic BM components	BM aspects adapted to the healthcare sector	BM components adapted to the healthcare sector	Transformation of the existing BM components
Customer interface	Customer relationships	User interface	Patient relationships	<ul style="list-style-type: none"> * Improvement of information protocols for patients (waiting periods, rights, alternative options, etc.) * Establishment of mechanisms and procedures to improve patient relationships in terms of better communication, patient empowerment, greater responsibility for their own health and well-being
	Customer segments		User segments	<ul style="list-style-type: none"> * Design and offer of health services and products to various segments of patients and users * Offer of self-paying clinical and non-clinical (catering, parking, renting, etc.) services
	Channels		Channels	<ul style="list-style-type: none"> * Institution of specialized channels for the provision of e-services for patients (information, consultations with healthcare professionals, eHealth services, eAppointments, etc.)
Financial aspect	Revenue streams	Public health and public finance aspect	Revenue	<ul style="list-style-type: none"> * Realization of the clinical work program according to the plan and improvement of the arbitration process within the plan; * Improvement of coding within the healthcare insurance billing process (ZZZS); * Increase of self-paying (market) healthcare services * Control of calculation accuracy in charging services to healthcare insurance (ZZZS);
	Cost structure		Expenditure	<ul style="list-style-type: none"> * Decrease of stock of materials, medicines, food, etc. * Extension of payment deadlines * Reducing the cost of infrastructure services

Source: own (2020)

V. Discussion

The performed study suggests that the measures proposed by the rehabilitation committees of the hospitals are complex, demanding and usually go beyond individual areas and require comprehensive, systemic changes. Most of the measures are expected to address the process aspect of hospital operations, as their principal activity is precisely the implementation of processes for treating patients. Similar to process measures, other measures should also bring about certain financial and systemic benefits, so their implementation importantly complements the basic set of measures.

According to these findings, the potential transformation of the business model is a very challenging mission that would require a lot of effort from all stakeholders, additional resources and a systematic approach for solving the problem. The current research efforts have gone particularly in the direction of focusing on the narrower aspects of the business model, which, on the one hand, inhibits the research initiatives and the consolidation of the theoretical concepts of the business model, and on the other hand, prohibits its implementation and practical use in the actual healthcare environment.

To date, the research reveals that four main components (infrastructure management, healthcare services/products, user interface, public health and the public finance aspect) of the business model have a significant and multifaceted effect on the efficiency of hospitals' management. Successful management is the primary concern of all organizations, whereby public hospitals as public healthcare providers are faced with more challenges than private hospitals; leading to a higher risk of financial difficulties. Besides the larger number of stakeholders having an active role within the healthcare business model, the required adaption of the current business arrangement in the health sector should consider the importance of the unique concept of health in modern society, and the distinctive characteristics of organizational systems generating public benefits. The operation of public hospitals is more rigid and restrictive than operation of private sector entities (Stanimirović, 2015). Namely, the public hospitals have to consider the public health and public finance aspects, which significantly determine the "way of doing business", and have a decisive impact on the setting of priorities and steering the development of the healthcare system in general. Despite the differences, the business model concept is applicable in both the public and private sector, since all hospitals have to achieve economic and organizational continuity, settle due liabilities and ensure positive cash flow for future investments while ensuring high-quality and safe healthcare services.

The in-depth analysis of measures for the revitalization and transformation of each of the outlined components (Table 2) revealed that the sustainable business model of Slovenian hospitals should consider the wide array of internal (hospital) factors since that has been the Government's primary concern. Additionally, the whole transformational process should be adequately sequenced and structured, pointing out the specifics of public hospitals, which differ from private sector logic.

Based on internally proposed measures for a sustainable public healthcare model, the study reassessed the complexity and specificity of the activities carried out by the hospitals, leaving aside the wider socio-economic framework. The enacted financial rehabilitation has been the first step towards transforming the existing business model of Slovenian

hospitals into a sustainable one. The transformed business model should be also externally supported, focusing mainly on improvement on the revenue (reimbursement) side of the system, changes in the payment system, and the regulatory framework.

The presented case study illustrates the dynamics in the current hospital business models in Slovenia, offering a clear impression of the critical difficulties and discrepancies in the field. The main methodological dilemmas of the research relate to the proposition of the transformed hospitals' business model, which was, for obvious reasons, conceptualized without empirical testing and practical validation in the real healthcare environment.

Accordingly, the assertions related to the transformation and construction of adequate business model for Slovenian hospitals may raise some open issues, and outcomes may therefore be disputable. These questions will have to be adequately addressed in future research concerning the establishment of balanced and theory-based formalisms for the analysis and transformation of business models in healthcare.

VI. Conclusion

Taking into account the complex nature and specificity of the activities performed by the healthcare system as one of the most important segments of the public sector, it is necessary to take into account the wider socioeconomic framework and harmonize the key components of the business model with process, organizational, informational and technological, public health and fiscal factors and restrictions when creating an appropriate business model for Slovenian hospitals. The development or transformation of the business model for Slovenian hospitals will have to include some important changes based on the generic ontology of the business model that prevails in the private sector. In addition to a larger number of factors that play an active role within the business model of the healthcare system, changes also need to be introduced within their functions and mutual relations, which is reflected in the specific role of the healthcare activity in modern society and confirms the complexity of organizational systems that operate in the public sector and generate public benefit. The systemic environment of the business model in the organizational systems of the public sector is also more diversified and restrictive than in the private sector, as public health and public finance factors that determine the operating mode and priority tasks and guide the development of the healthcare system as a whole need to be considered in the operation of the healthcare system in addition to the classic factors that can be found in business models of private companies.

Despite these challenges, studies and experience of organizational systems that have already managed to transform their business models indicate that investments in optimization and transformation of obsolete business models represent a huge development opportunity, which should be used in Slovenia. The challenges faced by Slovenian healthcare in the last decade imply that Slovenia will need widespread and profound reforms of the healthcare system. One of the first painless steps would, therefore be a thorough analysis of the existing business model and its shortcomings.

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