

## Sustainability at the Healthcare Organizations: an Analysis of the Impact on the Environment, Society, and Economy

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Terms like sustainability, transparent management, respect for the environment, and social responsibility are concepts that each day gain more importance in the business scenario, which is becoming not anymore just about financial aspects. The business of the healthcare organizations generates a large impact on the society by three dimensions: economical, environmental, and social. Sustainability and these three dimensions must be defined in the organization's policy and its strategic planning; the senior managers should be directly involved in the processes. These processes should be worked during the day to day actions and not just be a matter of marketing. The organization should clearly define how this policy will direct the processes guidelines, and actions for that. From this perspective the objective of this research is to analyze the amount of Brazilian healthcare organizations that have defined the three guidelines of sustainability in their policies and their strategic planning. The methodology used is descriptive. In the main results from the data collected from the websites, few health organizations mentioned the term sustainability and, when they mentioned the term, they mentioned it in a superficial way, which does not focus on the triple bottom line.

### 1. Introduction

Globalization and increased competition have forced companies in different sectors to reconsider their strategies and management processes that effect health organizations. The healthcare sustainability is still a new concept and it has been little discussed (Altpeter et al., 2014). The business of these institutions generates a large impact in the society in the three aspects that guide sustainability: environmental, economic, and social. These aspects form the triple bottom line (Byus et al., 2014).

The European Union formulated the concept of the three pillars of sustainability at the Copenhagen Summit and in the Treaty of Amsterdam in 1997. These pillars were called Model Three Pillars of Sustainability and they declared that the sustainability did not only involve the environment, but it also was related to the economic achievements and to the social institutions, such as the formation of the desire for democracy and peaceful conflict resolution (Kash et al., 2014). The sustainable development, therefore, was based on each environmental, economic, and social pillar (Infante et al., 2013).

Sustainable management and their practices are designed to improve the population's quality of life, positively influencing the interpretation of the employees about the term sustainability (Ament et al., 2014). In this sense, the concept of sustainability has improved continuously the process of re-evaluation of the relationship between economic growth, civil society, and the environment (Maley, 2014). One of the most important administrative functions that allow managers to better analyze the internal and external environment in which the company operates is strategic planning. Strategic planning is defined as the set of objectives, guidelines, and pre-scenarios established and coordinated in order to define the main activity established by the company (Maley, 2014). However, the strategic planning is where the company's preparation for the achievement of its objectives begins (Clarke et al., 2014).

Sustainability should be seen as a systemic approach, which depends on everyone: business, government, society, and individuals, where all elements influence and are influenced by each other.

All these actions, without exception, somehow affect people's lives. Thus, social responsibility is an important factor for companies to maintain their sustainability (Infante et al., 2013).

The vast majority of the Brazilian hospitals face a financial and management crisis. The Brazilian National Confederation of Public Hospitals and the Brazilian Philanthropic Hospitals points out that 80 % of the Brazilian institutions are indebted. From this perspective, the objective of this research is to analyze the amount of Brazilian healthcare organizations that have defined the three guide of sustainability in their policies and their strategic planning.

In this sense the research study instigates the use of strategic planning as a way to direct and to promote sustainability (Altpeter et al., 2014) within the organizations through key indicators like the reduction of: the energy costs used through operating practice and equipment with lower power consumption; the hospital practices related to pollution in the case of treatment of hospital sewage and disposal of infectious materials, as well as damaging agents such as heavy metals and radioisotopes; the use of polyvinyl chloride (PVC), which incineration leads to the release of carcinogenic dioxins; and the use of plastic packaging serums and medications that can be toxic to the people. These key indicators can influence all the three pillars of sustainability: the environment, the society, and the economy. For example: the minimization of the use of plastic packaging serums and medications will decrease: the purchasing costs (economy), the amount of waste (environment), and consecutively the prejudicial materials to the human health (society).

This research is divided into six sections: this introduction, the sustainability, the strategic planning, the methodology, the analysis, the discussion of the results, and the conclusions.

## **2. Sustainability and Triple Bottom Line**

The term sustainability has been discussed with the providers of healthcare organizations during the two last decades; however, few institutions in this area have put this discussion into practice.

The best known definition of sustainability is meeting the needs of the present generation without affecting the ability of future generations to meet their needs (Mattiota et al., 2013). In this sense this definition makes clear that one of the basic principles of sustainability is the long-term vision. It is necessary to consider the three pillars when it comes to sustainability: financial, social, and environmental (Byus et al., 2014).

Sustainability should be seen as an ongoing process, which must be improved through the established goals, with vision in the triple bottom line. The concept is clearly connected with values and ethics (McVanel-Viney, 2009).

Maley (2014) argues that one of the problems of sustainability refers to the fact that society should know where to go for that the society can measure whether its goals are being followed or achieved.

Sustainability is difficult to define, to become operational, and too large to measure. Its concept covers multiple objectives, involving four critical components: the growth component, the distribution component, the environmental component, and the institutional component (Cavanagh and Hickey, 2012). Its growth component is linked to the creation of productive capacity and it is central to the economic growth of each country, positively impacting the physical environment, the human capital, the nature, and the society. However, although growth is necessary, it is not enough for it to be distributed, so, the distribution component focuses on different living conditions in various regions and it worries about the next generations.

The environmental concept is connected with the reduction of consumption of natural resources and the concern about environmental degradation from pollution (Mattiota et al., 2013). The last component concerns the involvement of the society, considered essential for the development and implementation of sustainability principles (McVanel-Viney, 2009).

Thus, the principle of sustainability applies to a single company and it is related to the environment, to the economy, and to the society.

## **3. The triple bottom line**

### **3.1 The environmental sustainability**

The environmental crisis comes together with discussions on sustainable development. In 1960 the environment concern has emerged in the middle of the student movement, where the political dimension drew attention to the environmental consequences of the economic development (Cavanagh and Hickey, 2012).

The management in hospitals, including the environmental issues as well as social responsibility, is being considered one of the main keys to the solution of the most serious problems currently afflicting the world (Infante et al., 2013).

Concerns about jeopardizing the environment can encourage companies to consider the impact of their activities on the environment in the form of using natural resources and it can contribute to the integration of the environmental management in the work routine. The concern about the environmental impacts should be of everyone. The reuse of materials, especially with the quality of life of a society, is no longer just a matter of time. Actions to environmental improvements gained strength in the business context (Buys et al., 2014).

Companies are turning their management to environmental sustainability in order to collaborate with the social environment. Ecological sustainability can be achieved by promoting a review of consumption patterns and changes in standards, especially of exhaustible resources or stock.

### **3.2 The social sustainability**

The social dimension is the aspect related to the qualities of human beings, such as skills, dedication, and experience, covering both the internal and the external environment of the company. The social dimension is linked to the influence of social actions developed by organizations; however, sustainability focuses on the benefits to society as a whole. Social sustainability refers to a development process that leads to a stable growth with equitable distribution of income, thereby creating a reduction of the current differences between the different levels of the society and improving the living conditions of the population (Cavanagh and Hickey, 2012).

The Global Reporting Initiative (GRI) argues that the social dimension of sustainability concerns the organization's impacts on the social systems in which it operates. GRI social performance indicators identify key performance aspects related to labour practices, human rights, society, and product responsibility.

The social dimension is connected with the presence of human capital.

### **3.3 The economic sustainability**

The economic sustainability involves the social and environmental context in order to become not only a more prosperous future, but also a driver of change in real life companies and the population (Cavanagh and Hickey, 2012).

The definition and concerns of economic sustainability emphasize sharp changes in all economic sectors, although that does not occur in an immediate way. Future generations, need to take care of the economy to have other sustainable gains, such as environmental sustainability.

A major problem related to the application of the concepts of economic sustainability within the health organizations of developing countries is the caution the new energy uses and investments, which at first may have some economic risk. However, it is important to note that economic sustainability is the basis of a stable and just society; in addition, it allows sustainable development.

The sustainable economy also creates opportunities to improve all other social and environmental sectors.

## **4. The strategic planning**

The strategic planning is debated and organizations can still find a number of interpretations regarding this administration tool. The strategic planning, which became the focus of attention of top management of companies, turns to the positive steps a company can take to address the threats and the opportunities found in their environment (Altpeter et al., 2014). The management of the established objectives, formal plans, and financial budgets is important to direct any company. In this sense, the hospitals and the hospital managers that have not established strategies are suffering (Meena et al., 2014).

On the other hand, the basic strategies of operating a hospital are usually to assemble service structure and to expect customers to use the services provided. This structure is usually made based on the conditions of historical demand not taking into account current needs of the region in which the hospital is installed (Lovaglio et al., 2012). The demand is big and the hospitals often do not have beds to accommodate the patients.

Planning is the first process administrative role that sustains other ones. It is the function that seeks to determine strategies, objectives, goals, and anticipate results. Its guides the possible paths to follow (optional action rules) and it allows choosing the course of action for achieving these strategies and goals (Mahadkar, 2012).

In the health sector, the financial aspects, the payment system of the single system of Brazilian health, the management system, the political practice, and the philosophical industry strongly influence the planning

unit. In this field, there are several turbulences that generate risks and uncertainties, both public hospitals and private hospitals.

#### **4.1 The strategic planning steps**

For implementation of the strategic planning it is necessary to structure and run some procedures and analysis according to the current situation of the organization. The strategic planning is developed and implemented through four steps, which are closely linked; a fact that places the importance of working the four steps evenly to avoid compromising the search results.

- I. Strategic diagnosis - The step that analyzes the situation of the company as a whole, it is based on the data analysis and classification in the internal and external environment, establishing the current situation of the health organization.
- II. Company mission - It establishes the main objective/reason of the health organization, as well as its strategic positioning.
- III. Prescriptive and quantitative instruments - This step establishes the objectives of the health organization, in the sense of where it wants to go and how it can get there.
- IV. Control and Evaluation - At this step, it appears that the progress of the health organization to achieve the desired situation. The control can be defined as the necessary measures to ensure the achievement of the objectives, challenges, strategies, goals, projects and action plans.

### **5. Methodology**

It is a descriptive approach. Data were collected from the information posted on the websites of each institution. The collected and analyzed data are: mission, vision, values, and strategic planning with regard to the adoption of long-term sustainability and it is described on the three pillars: economic, environmental, and social. The sample is composed of fifty four Brazilian hospitals.

The data collected from the websites were be analyzed using descriptive analysis and they were discussed based on the literature on the sustainability model in the context of the triple bottom line. The anonymity of institutions was maintained.

The results presented here are part of a management model study in the Brazilian hospitals. The objective of this research is to analyze the amount of Brazilian healthcare organizations that have defined the three guidelines of sustainability in their policies and their strategic planning.

The health organizations generate a large impact on society by three dimensions: economic, environmental, and social. The concept of sustainability must be defined in the policy (mission, vision, and values) of the organization and entered and followed in strategic planning. It is important that all hierarchical levels understand and direct the daily actions to achieve the objectives.

### **6. Analysis and discussion of results**

According to the Brazilian Federation of Hospitals, Brazil has 6,832 hospitals in operation (65.38 % are private hospitals and 34.62 % public hospitals). It has 430,484 beds; they are divided into 29.84 % of beds for covenants and 70.16 % beds for the public health system (SUS) Brazilian. To define the sample size, it was taken into account the main and most renowned Brazilian hospitals, according to the Health of Brazil, and the International Joint Commission (JCI), the oldest and largest company of accreditation and definition of medical care in the patterns of the United States (it evaluated more than 20,000 institutions and inspired to strive for excellence in providing safe and effective healthcare organizations). The JCI certified 52 hospitals in Brazil in one or more skill. This study used only 27 hospitals certified by the JCI.

The sample has 38 hospitals. The authors analyzed their missions, visions, values, and strategic planning. Only one hospital released its strategic planning on the website. All hospitals mentioned social actions, 25 of them mentioned environmental actions, and 16 of them mentioned economic actions. Table 1 showed that between the 38 institutions only 13 mentioned the triple bottom line in its mission, vision, and values and they made available on the website of a specific page or they talked about sustainability and social responsibility.

In relation to the 27 institutions accredited by the Joint Commission International (JCI), only 7 work with sustainability and the triple bottom line.

It was observed also that most organizations do not have actions for energy consumption reduction and especially actions focused on reducing pollution generated by hospitals.

Table 1: The sustainability and triple bottom line in Hospitals

Sustainability/Social Responsibility	Economic	Environmental	Social
Social Responsibility	4	4	4
Sustainability	9	9	9
<b>Grand Total</b>	<b>13</b>	<b>13</b>	<b>13</b>

### 6.1 Recommendation to facilitate the implementation of the triple bottom line

The strategic planning establishes four steps for implementation: the strategic diagnosis (step I), the company's mission (step II), the regulatory and quantitative instruments (step III), and the control and evaluation (step IV). The healthcare organizations should implement the triple bottom line using these four steps.

The health organizations need to have processes with transparent and direct communications informing the objectives outlined, which pursue in the triple bottom line and the role of each one within the organizations to achieve results (Nyström et al., 2014).

This research study encourages and motivates the health workers to innovate in their activities, which may contribute to generate both financial savings and resources (Chandra-Mouli et al., 2013). The teamwork can contribute to a better analysis and to the development of strategies to improve the results (Mattioda et al., 2013).

## 7. Conclusions

In recent years the world has started to discuss sustainability and many companies have started to rethink the mode of interaction with the environment, in order to avoid endangering the natural environment and to contribute to the social and economic aspects.

Large corporations have defined the internal policy and strategic planning of the issue of sustainability in three areas: economic, environmental, and social. For the company to have a sustainable vision, all hierarchical levels must understand and identify through the established goals. Many companies use the concept of sustainability as a way to promote (like a marketing strategy).

Brazil has 6,832 hospitals with 430,484 beds for 200.4 M users. The research included 54 hospitals that were selected as the best in the country, according to the Ministry of Health of Brazil and JCI. It was observed that 24 % of the sample (13 hospitals) do not provide the information on the website: mission, vision, values and strategic planning (an interesting fact, as today, the website is the most economical way and easy to disseminate/promote the information). Another interesting point is that only one hospital provides on its website strategic planning.

As the objective of this research, it can be observed that between the 54 hospitals only 13 of them use the triple bottom line in the policies as a base to facilitate the delivery of health services at a higher level, with a vision of sustainability. The use of social responsibility is still often being used wrong in the country (still the main goal is to use it only to promote or raise funds for the institution).

In the environmental aspect, only 25 hospitals have strategies to reduce the environmental impacts with the main action mentioning hospital waste management. In the economic part, it was not found certain actions and, so, there are little established indicators. Much remains to be implemented for sustainable management in hospitals, such as sustainability requires: detailed planning, specific budget, and not only sporadic actions disguised to promote the institution.

This research study seeks to present the relevance of having a strategic planning well defined for the healthcare organizations. An organization that does not have established objectives and that does not share them with its employees may not prosper in the business. In the case of the hospitals, the strategic planning is more complex, because the hospitals serve the community with health, an intangible product. It is important to link the strategic planning with the sustainability triple bottom line for the healthcare organizations. Through a structured planning with vision on sustainability (TBL), the healthcare organizations might minimize their costs and maximize their services to the community.

Finally, the Brazilian hospitals still need to mature to understand that the sustainability and the triple bottom line should be built and developed on the basis of a strategic planning and of a hospital management, where environmental, economic, and social variables can relate systemically in order to make the most significant results. Only then hospitals can be fully sustainable.

## References

- Altpeter M., Schneider E.C., Whitelaw N., 2014, Examining Strategies to Build and Sustain Healthy Aging Programming Collaboratives. *Health Education & Behavior*, 41(1), 27–33.
- Ament S.M.C., Gillissen F., Moser A., Maessen J.M.C., Dirksen C.D., Meyenfeldt M.F., Weijden T., 2014, Identification of promising strategies to sustain improvements in hospital practice: a qualitative case study, *BMC Health Services Research*, 14, 641.
- Buys L., Mengersen K., Johnson S., Buuren N.V., Chauvin A., 2014, Creating a Sustainability Scorecard as a predictive tool for measuring the complex social, economic and environmental impacts of industries, a case study: Assessing the viability and sustainability of the dairy industry. *Journal of Environmental Management*, 133, 184-192.
- Cavanagh N., Hickey C., 2012, A “Triple Bottom Line” approach to QRA. *Chemical Engineering Transactions*, 26, 159-164.
- Chandra-Mouli V., Baltag V, Ogbaselassie L., 2013, Strategies to sustain and scale up youth friendly health services in the Republic of Moldova. *BMC Public Health*, 13, 284.
- Clarke C.L., Keyes S.E., Wilkinson H., Alexjuk J., Wilcockson J., Robinson L., Corner L., Cattan M., 2014, Organisational space for partnership and sustainability: lessons from the implementation of the National Dementia Strategy for England. *Health and Social Care in the Community*, 22(6), 634–645.
- Infante C.E.D.C., Mendonça F.M., Michele P., 2013, Triple bottom line analysis of oil and gas industry with multicriteria decision making, *Journal of Cleaner Production*, 52, 289-300.
- Kash B.A., Spaulding A., Gamm L.D., Johnson C.E., 2014, Healthcare strategic management and the resource based view, *Journal of Strategy and Management*, 7(3), 251–264.
- Lovaglio P.G., Vittadini G., 2012, The balanced scorecard in health care: a multilevel latent variable approach, *Journal of Modelling in Management*, 7(1), 38 – 58.
- Maley J., 2014, Sustainability: the missing element in performance management, *Asia-Pacific Journal of Business Administration*, 6(3), 190–205.
- Mahadkar S., Mills G., Price A.D.F., 2012, Stakeholder consultation practices within healthcare infrastructure planning: A conceptual approach to strategic asset management, *Built Environment Project and Asset Management*, 2(2), 127–145.
- Mattioda R.A., Fernandes P.T., Detro S.P., Casela J.L., Canciglieri Junior O., 2013 Principle of Triple Bottom Line in the Integrated Development of Sustainable Products. *Chemical Engineering Transactions*, 35, 199-204.
- Meena K., Thakkar J., 2014, Development of Balanced Scorecard for healthcare using Interpretive Structural Modeling and Analytic Network Process, *Journal of Advances in Management Research*, 11(3), 232–256.
- McVanel - Viney S., 2009, The Step - by - Step Guide to Sustainability Planning: How to Create and Implement Sustainability Plans in any Business or Organization, *Leadership & Organization Development Journal*, 30(7), 688 – 690.
- Nyström M.E., Strehlenert H., Hansson J., Hasson H., 2014, Strategies to facilitate implementation and sustainability of large system transformations: a case study of a national program for improving quality of care for elderly people, *BMC Health Services Research*, 14, 401.