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Submission date: 16-Sep-2022 08:31AM (UTC+0700)
Submission ID: 1900913693
File name: 22._Innovation_in_hospital.pdf (465.31K)
Word count: 2237
Character count: 13357

2nd International Conference of Health, Science and Technology 2021 | ISBN: 978-623-92207-1-6

Innovation in hospital: Learning from Malcolm Baldrige Awards latest winners in healthcare

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***Abstract*— The purpose of this paper is to take lessons about innovations made by the latest winners of the Malcolm Baldrige National Quality Award (MBNQA) in the healthcare sector. In 2018-2019 three hospitals won the awards, and all have the excellence in innovation. The method used is qualitative by analyzing the three winning organizations' MBNQA application documents related to innovation and other sources as supporting and triangulation materials. The analysis was carried out using content analysis guided by the innovation management measurement framework. The analysis results show that these organizations emphasize the importance of innovation input and knowledge management for successful innovation implementation/commercialization. This paper's uniqueness is innovation management's concept involvement and is carried out in recent healthcare organization cases.**

Keywords*— *innovation, healthcare, MBNQA

I. INTRODUCTION

The Malcolm Baldrige National Quality Award (MBNQA) is one of the world's leading awards to recognize organizations that practice quality excellence [1]. Quality is crucial in the competitive era [2]–[4]. Although implemented in the USA, there are many lessons from MBNQA for other organizations outside this context [5]. The assessment process is carried out comprehensively, from strategic to operational aspects, and considers the organization's measurable outcomes. The award assessment is divided into criteria grouped into three main groups: leadership, systems, and results. The award applicable to various sectors in their scope.

Initially, in 1987, the sectors covered by MBNQA included manufacturing, services, and small business [6]. The growing sector's scope to education and health care in 1999 and nonprofit in 2007 [6]. For health care organizations, existing criteria are adapted to suit the unique conditions of health care [7]. Previous researchers examined these criteria' suitability with health care organizations and found that these criteria were relevant for the healthcare sector [8]. Although on the other hand, there are criticisms that the assessment is too complex and drains energy in its implementation [9].

With regard to innovation, winners from MBNQA from the healthcare sector, according to previous researchers, incorporate innovation in the vision and mission as well as become priorities in corporate leadership and strategic planning [10]. Given that the publication was more than five years ago, it is interesting to find out about updates to the portrait of innovation on recent winners and use a unique analysis framework, namely the innovation management measurement framework [11].

Therefore, this paper aims to provide a preliminary analysis of innovation in the health care sector, focusing on the latest winners in the health care sector. This paper can serve as a basis for developing a more in-depth investigation of innovations in the future healthcare sector. This paper is structured as follows; the first section provides the background and purpose of the paper. The method is presented in the second section. The third section describes the results and discussion. The conclusion is presented in the last section.

II. METHOD

The method used in this paper is qualitative by analyzing application documents summary of the latest winners of MBNQA from the healthcare sector along with other supporting sources such as the hospital website in question. The main data is collected from the National Institute of Standards and Technology website, the US Department of Commerce [12]. Furthermore, the data collected is analyzed using a content analysis approach guided by the innovation management measurement framework from Adams et al. 2006 [11]. This framework was chosen to assist the analysis process because of its comprehensiveness in reviewing innovation in organizations.

There are seven categories in the innovation management measurement framework: input, knowledge management, strategy, organization and culture, portfolio management, project management, and commercialization [11]. Input relates to the availability of resources, including human resources and technology [13], [14]. Knowledge management reflects how organizations understand technological developments and manage their knowledge [14], [15]. Strategy is concerned with its strategic management and its suitability with its innovation strategy [14], [16].

Organizations and culture discuss leadership and organizational climate in the organization [17]–[20]. Portfolio management discusses the planning and selection of projects to be implemented by the organization [21]. Project management discusses the technical and managerial aspects of projects in the organization [22]. Commercialization is the end of innovation to generate profits from the innovation [13].

III. RESULTS & DISCUSSION

The result of the analysis is shown in Table 1. Innovation is evident in the three hospitals analyzed, reflected in the mention of 'innovation' word, which about more than 50 times in each application summary of the three hospitals, each of which has about 60 pages [23]–[25].

Inputs for innovation internally are in the form of capital, material, and human resources. The three hospitals involve input from broad stakeholders to provide innovative ideas for the hospital. Hospital A, for example, specifically identified and involved 13 stakeholder groups in their strategic planning [23]. Likewise, Hospital B and C have captured innovation

 ISBN: 978-623-92207-1-6

ideas from various parties to be innovative and achieve the targeted strategic results [24], [25].

From the knowledge management side, it is evident that the three hospitals analyzed have mechanisms to manage their knowledge. This mechanism is carried out, for example, through the establishment of an institute dedicated explicitly to the learning process, such as Hospital B [25]. Or through the training process and scholarship and recognition for employees who are studying outside the organization, employees are always updated and able to think innovatively for the organization's progress.

The innovation strategies of Hospitals A, B, and C involve a formal strategic process that is carried out in each organization. This process involves senior management and is carried out periodically, especially in the SPP (strategic planning process). Hospital C developed a unique system in the form of an innovation management system as a strategic step to promote innovation in the organization [24]. Hospital B has explicitly eight specific stages in their SPP that embed innovation in the process. Hospital B engages the Board of Directors to discuss innovation quarterly [25].

In terms of organization and culture, the three hospitals have a strong culture that encourages organizational elements to think differently and creatively in the things they do. This culture is developed through a specific system such as the Process Improvement Model from hospital C. Other efforts, such as Rounding, SPOKE, Lean, TOWS, and different approaches, as practiced by hospital A [23]. Culture is decisive in determining the climate of innovation in organizations [18]–[20].

In terms of portfolio management, what stands out from the three hospitals analyzed is intelligent risk-taking to encourage breakthroughs at various organization levels. For selecting projects included in the hospital's portfolio, all analyzed hospitals involve executives in analyzing various aspects, including aspects of innovation and risks to the organization.

The portfolio management relates to the next aspect of project management, where all hospitals have a mechanism to ensure that projects run according to the target time, cost, and quality. This aspect is carried out through project tracking improvements, including project management or execution of strategic projects such as Project Intellicare to capture patient data comprehensively, including patient complaints and safety incidents [22], [25].

Finally, commercialization is carried out specifically by specific departments as practiced by hospital A through the Marketing and Business Development Department [23]. Another common effort is through market research and focus group discussions on analyzing health care trends and understanding their hospital and other hospitals' community perception to maximize the value of hospital's stakeholders [23]–[25]. In service organizations, market research can assist organizations in commercialization by offering services that are fit for their consumers [26], [27].

Table 1. Analysis results

Framework category	Hospital A MHHC (2018)	Hospital B AHWM (2019)	Hospital C MGMC (2019)
Inputs	Key inputs from 13 key organization stakeholders group (p. 8)	Annual strategic planning as a critical input for the organization (p. 1)	Material and workforce as a key input for innovation and achieve strategic targets (p. 10)
Knowledge management	Workforce learning, e.g., scholarship, certification, nursing clinical ladder. (p. 3)	Establishment of AHWM Faculty Institute of Research Education (p. 4)	Development Knowledge Management System to promote learning (p. 20)
Strategy	Leadership and BOD track and discuss innovation on a quarterly basis (p. 8)	Innovative thinking embedded through 8 steps strategic planning process (p. 9-10)	Development innovation management system to foster innovation (p. 31)
Organization and culture	Culture of innovation through Rounding, SPOKE, Lean, TOWS etc (p. 8)	Culture to think differently and creative in everything is done (p. 10)	Process Improvement Model to guide innovation ideas and daily improvement (p. 27)
Portfolio management	Intelligent risk-taking to encourage breakthrough in all organization's level (p. 5)	Executive votes' to select the top project for the organization (p. 11)	SPTF (Strategic Planning Task Force) exercise for innovation and risk-taking (p. 7)
Project management	Mechanism to keep the project on target by eliminating barriers (p. 30)	Project Intellicare to capture patients' data incl. complaints and incidents (p. 20)	Improvement tracking including the project management area (p. v)
Commercialization	Marketing and Business Development Department in the organization (p. 17)	Market research and focus groups to understand community perception (p. 17)	Analyzing healthcare trend and industry market research to maximizing value (p. 7)

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IV. Conclusion

All three recent MBNQA winners from the health care sector demonstrated strong innovation in their organizations. The analysis results using the innovation management framework show how the hospital practices are in every aspect of the framework [11]. This paper's future development can involve a larger sample of winners in a longer span of years.

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