

Automation in The Logistics Management with Reference To Health Care Industry

M.Sivaranjani

M.Phil Scholar

Department of Commerce

Loyola College

Chennai

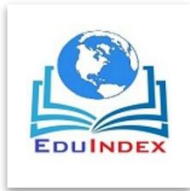
Abstract

The contemporary demographic expansion puts even greater demands on the healthcare sector which already scuffle with scarce resources and constant pressure of cost cutbacks. In this paper we can analyze how automation of healthcare internal logistics can be a tool in improving the efficiency. “Healthcare is not based on supply and demand. It can’t be provided like it’s a traditional product”. Healthcare needs pioneering leaders who are prepared to meet these industry challenges today and anticipate the expectations of tomorrow with a thorough end-to-end understanding of the healthcare supply chain and vision for the future. Not surprisingly, those without automated resource planning and tracking systems were also less likely to have implemented other applicable technology, which can make logistics management more efficient and have become the standard in health care industries.

Keywords: Automation, logistics, healthcare, scarce resources and applicable technology.

INTRODUCTION

There are certain tasks that an organization wants performed by a human and that a human carries out best. When it comes to promptness and openness in executing rules-based, tedious tasks, software robots provide a better alternative. We live in an era where machine learning,



document understanding, and other artificial intelligence (AI) components are enhancing almost every aspect of our lives. Healthcare stakeholders are also examining which tasks can be done by humans, and how they can enhance those distinctly human functions through harnessing cutting-edge digital technologies. For the past 15 years, the logistics function has gained a strategic place in the management of hospitals. Nowadays, we are also witnessing several strategic decisions related to logistics such as the outsourcing of certain activities in the hospital supply chain (purchasing and supply management, sterilization, stock management or intra and inter-site transport, etc.). Hospital managers have also implemented various tools and methods of lean management allowing a continuous improvement approach.

Objectives of the study

The main objectives of the study are:

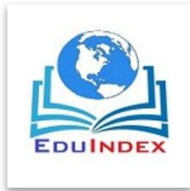
- To study the challenges faced by the organization in health care industry
- To identify the benefit that can be realized by applying automation to healthcare

Research Methodology

This study is based on secondary data collected from various sources.

Challenges Faced With The Organization

Providers face organizational challenges each day, dealing with patient information, data, paperwork, electronic health records, and more. This sort of information can be stored in siloed systems creating monotonous tasks that administrative staff, doctors, nurses, or other practitioners have to complete in order to provide a patient with needed care. The payers, whether private or public, also perform numerous tasks that can slow down operations and drive up costs for their organization. Enrolling new members, payment processing, and provider credentialing are all tasks that involve a large amount of rules-based, routine tasks. While all of them are essential to facilitate payment for a member, not all of those need to be done by humans.



Here Are 6 Big Benefits That Can Be Realized By Applying Automation To Healthcare

1. Labor Reserves

Using automation to swap manually intensive tasks that are better done by machine can be a big time saver. It doesn't have to eliminate employees, but rather hoist them into complex-operational roles that make use of the clinical expertise they have been trained for.

2. Improved Value and Steadiness

Automation tools are not subject to humanoid error or exhaustion, so they can help provide a consistent basis of care happenings. The greater automation in the areas of medical records, order entry, and decision upkeep appeared to result in a reduction in deaths, difficulties and cost.

3. Reduced Unwanted

Use of paper and spreadsheets and other workarounds needed for an overfull workload can lead to a lot of waste. The phone tag with a discharged patient in the free minutes between hospital nursing duties, automation can help get nurses and patients interconnected more efficiently.

4. Increased Predictability of Effects

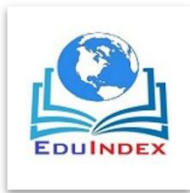
When the patients follow an identical care path supported by automation, it is more likely they will stay on track towards predicted outcomes. Automation can help perceive when a patient has differed from the suggested care plan so the care team can intrude.

5. Higher Throughput

A nurse supported by automation tools can handle larger inhabitants of patients at one time. As a substitute of surmounting up and down your headcount as patient volumes grow and shrink, an automated platform can scale submissively to address groups of all sizes.

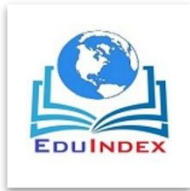
6. Data-Driven Understandings

Expertise used to automate progressions can also deliver a wealth of data in a continuous



criticism loop that can be used for performance improvement and optimization. With every sequences, automation systems can collect data on how the process is working and use that information to improve the platform. This way it improves on itself over time, becoming even regimented, more specific and more reassuring to the team's capability.

Against the background of the complexity of the hospital system, the variability and unpredictability of the patient profile and the high demand for care logistics is considered as an effective solution in the organization of working time to care staff by offering them the opportunity to concentrate on their core activities and improve patient care conditions. The management of logistics activities goes beyond traditional physical flows, and it considers other flows such as patients throughout the care chain. Patient management incorporates several multidisciplinary and interdependent medical and administrative steps that require controlled interconnection and synchronization to avoid problems with wait times, misuse of medical resources etc. Numerous studies have engrossed on the course of intra-site patients by intending ground-breaking practices to optimize their flow and ensure the safety of their stay in care units or medical-technical services. Inter-hospital transfers of patients also require efficient logistics between the partner network (hospital, laboratory, blood transfusion center, etc.) as they generate significant costs and there is a potential danger of information loss or medical complication. Finally, the research related to patient flows studied the issue of administrative practice in terms of treatment and monitoring of medical data of patients throughout the care process. Hospital flows have also benefited from the technological progress of information systems and the emergence of new IT tools with high added value (Radio Frequency Identification, Enterprise Ressource Planning, mobile application, etc.). Health organizations have tried to seize the opportunity offered by ICTs to move towards a new management based on the control of financial, administrative and medical aspects. Information flows are a source of improvement of the medical practices of patient flows. Tools such as the electronic patient record play a key role in recording the data by providing detailed information about the history



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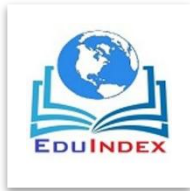
of the patient file. They also constitute a communication medium between the services of the organization and support the information sharing between the partner institutions (laboratory, hospital, blood transfusion center, etc.). Internal external integration is therefore challenging for hospitals. In addition, an efficient logistic approach is also based on the qualification and skills of major actors (purchasers, logistics managers, nurses, etc.). Hospitals should strengthen this aspect by setting up an awareness campaign and a recruitment policy adapted to the requirements of logistics practices, prioritizing three major axes: technological, organizational and interpersonal relations.

Logistics Process

Logistics activities in hospitals provide significant opportunities for improvement and cost containment in healthcare. However, literature provides little guidance on how to improve healthcare logistics processes. This study aims to provide theoretically and empirically based evidence for improving logistics processes in hospitals to both expand the knowledge base of healthcare logistics and to provide a decision tool for managers with which to improve healthcare logistics processes. Hospitals may have different needs and preferences in terms of a logistics solution depending on the circumstances in which a hospital operates, the strategy of the hospital, and other contingent factors. The “needs and preferences” are therefore included.

Decision criteria for selecting technologies

- Increased efficiency
- Shorter cycle time
- Shorter lead time
- Lower costs
- Improved data accuracy
- Improved inventory visibility



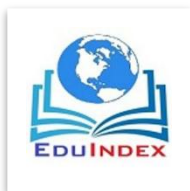
- Reductions in theft and wasted products
- Improved operational flows
- Improved reverse logistics
- Improved planning and control
- Increased patient care quality and safety
- Improved readiness of purchase orders
- Improved information storage
- Improved SC communication
- Improved collaborative planning, forecasting and replenishment (CPFR)

The benefits of applying different interventions in healthcare logistics

Recognizing a challenge for a healthcare logistics process may lead to the implementation of an intervention, which in turn produces a benefit that alleviates the identified challenge. Summary of challenges in healthcare logistics some of the challenges identified in the investigated case studies reoccur throughout all the cases. The reoccurring challenges relate to the following themes:

- Performance measurement
- Capturing data
- Employee retention
- Employee absenteeism
- Physical constraints
- Locating people and items
- Systems integration

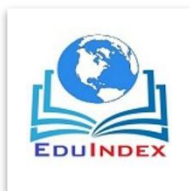
The Need for Automation of Healthcare Activities



There is much assistance to healthcare benefactors through automation. Not only will the end to end meting out of customer records would be made easier, automation would also result in the actualization of adeptness and collaborations across the intactsignificance chain of activities that healthcare organizations deliver. When we mean healthcare workers, we include the entire gamut of service providers including day care providers, clinics, full-fledged hospitals, insurers, and pharmaceutical channels. The automation of the value chain would whollyhelp large hospitals when they incorporate the end-to-end happenings that they undertake in a single, intelligible, and unified set of software. The practice of storing medical records of patients and referring to them on subsequent visits would greatly value the doctors and the paramedics who would not only have right of entry to the patients' antiquity but also have details about the patients in footings of medications and allergies to any unambiguous drug. Further, by systematizing finance and nursing tasks into the hospitals' software, the value that is extended through synergies is enormous in rappingort of better patient treatment and postoperative care as well as ensuring and checking that the patients have paid on time.

The Benefits of Automation of Healthcare Value Chains

Talking about postoperative care, it is indeed essential that hospitals automate the ICU (Intensive Care Unit) component with the other functions so that the patients are treated in an efficient manner. For instance, it is common in recent times for patients to be taken to the ICU after surgeries and then to the rooms. Therefore, by automating the entire patient lifecycle starting with the admission and the preoperative care to the actual surgery and the postoperative care, the healthcare providers would have greater visibility and control over the treatment being given to the patients. Moreover, in cases of accidents and trauma, timely treatment can be provided if the patients' history is available with details of the past treatments and any suggestions made by the doctors and the paramedics who have treated the patient in the past. In other words, the automation of the treatment lifecycle would greatly enhance the efficacy and efficiency associated with the healthcare providers. Apart from this, by integrating the insurer



information and the patients' health insurance details, it would be possible to start treatment without waiting for payment to be made.

Exemplary Pharmaceutical Logistics

The new warehouse for the pharmaceutical wholesaler was implemented within a very short timeframe of just six months. After commissioning the logistics building at the end of 2017, "The implemented solution sets new standards for the domestic market," with short cycle times allow us to expand our services, such as same-day delivery.

Conclusion

Automation provides assessment in any range of human activity and healthcare automation is especially essential and critical as it deals with human lives directly. In addition, placed to handle more demanding patient safety regulations in an efficient and flexible manner moving forward with discoveries of new market prospects and targeted marketing methodologies for Global Healthcare Logistics Market. The discussion of Research and Development, and the demand for new products launches and applications would enhance the automation in health care industry.

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