

Patient experience in the age of Industry 5.0

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ABSTRACT

The transition from Industry 4.0 to Industry 5.0 marks a significant advance in the integration of humans and technology. While Industry 4.0 focused on improvements in industrial processes, Industry 5.0 broadens this focus, recognizing the importance of human intervention, especially in the health sector. This study reviewed recent literature, exploring how emerging technologies such as IoT, AI and big data are being applied in healthcare. Analysis of real cases highlighted the positive impact of these innovations on the patient experience and clinical processes, reflecting on the role of Industry 5.0 in transforming the healthcare sector.

Keywords: Well-being, Industry 5.0, Health, Technology.

INTRODUCTION

The transition from Industry 4.0 to Industry 5.0 represents an evolution in industrial paradigms, with a renewed focus on the integration between humans and technology. While Industry 4.0 has brought remarkable advances in manufacturing processes, Industry 5.0 goes further, recognizing and valuing human intervention in sectors such as healthcare. In this introduction, Industry 5.0 is contextualized in the transformation of healthcare systems, emphasizing the pressing condition of how these technologies can be applied effectively to improve the patient experience.

MATERIALS AND METHODS

This study sought to develop a literature review focusing on the impacts of Industry 5.0 in healthcare. The selection of studies was carried out in the academic database of the Web of Science, examining studies between 2019 and 2024 and seeking to identify research that explored the use of emerging technologies, such as *the Internet of Things* (IoT), artificial intelligence (AI) and *big data analytics*, in the context of healthcare.

In addition, we sought to understand through the analysis of real case studies and examples of use of these technologies. The goal was to analyze how these innovations are affecting health outcomes and clinical processes. In doing so, it is hoped to develop a reflection of Industry 5.0 in the health sector and the participation of technologies to promote change.

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To conduct the literature review, *Boolean* operators were used to identify articles in English in academic databases. The *Boolean* operator AND was used to combine the specific terms: *Information Systems AND Industry 5.0; Business Intelligence AND Industry 5.0; Technology Management AND Industry 5.0; Information Systems AND Fifth Industrial Revolution; Business Intelligence AND Fifth Industrial Revolution; Technology Management AND Fifth Industrial Revolution; Operations AND Fifth Industrial Revolution.*

FINDINGS

Ways in which Industry 5.0 can contribute to advances in the field of health were evaluated, by placing human focus as one of the objectives of technological development. For example, the integration of IoT devices and smart sensors can simplify remote patient monitoring, enabling early and personalized interventions in chronic health conditions (Loizaga, E., Eyam, A. T., Bastida, L., & Martinez Lastra, J. L., 2023).

To support this claim, studies demonstrate the effective use of these technologies. The study by Grosse et al. (2023) showed how *big data* analytics can identify disease patterns that aid in the efficient allocation of hospital resources. Additionally, Yorks et al. (2020) highlight the use of AI in predicting disease outbreaks and identifying emerging health trends, allowing for a faster and more effective response to potential health crises.

When analyzing the challenges and ethical considerations related to the adoption of Industry 5.0 technologies in healthcare, the people-centered approach is recognized. Issues such as privacy, data security, and equity in access to healthcare services are handled with care, ensuring that technological innovations are beneficial to all involved.

An overview of the concept of Industry 5.0, emphasizes its focus on people-centered approaches to technology integration. By fostering closer collaboration between humans and machines, Industry 5.0 seeks to create environments in which technology serves to enhance human well-being and productivity in a variety of industries, including healthcare (Grosse et al., 2023).

FINAL CONSIDERATIONS

Therefore, this article highlights the transformative potential of Industry 5.0 in healthcare, highlighting a humanized and people-centered approach. By integrating advanced technologies with ethical principles and human values, more efficient, accessible, and personalized healthcare systems can be developed (Grosse et al., 2023). However, ethical challenges and concerns must be addressed to ensure that these innovations truly bring benefits to both patients and healthcare professionals.



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