

Digitalization in Healthcare: A Systematic Review of the Literature [†]

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Abstract: With agile changes in many sectors, technology comes to the focus of our lives and helps us to take more solid steps. Concepts such as e-commerce, e-health, and data mining have come to the fore. The effects of technological advances, which have begun to integrate into health services, such as increasing work efficiency, service quality, and creating a safe service environment have been determined. In this review study, various digitalization studies carried out in the field of health between 2012–2022 were examined and summarized.

Keywords: digitalization in healthcare; digital maturity models; health information technologies

1. Objectives

With the developments in technology, different opportunities have arisen for sectors to develop themselves and increase their quality. The digital transformation has also led to significant changes in the field of healthcare, such as more time allocated to patients, higher quality healthcare, higher patient safety, and more significant capabilities in healthcare [1,2]. Through this literature review, our aim is to understand the current trends and methods regarding digitalization in healthcare.

2. Methodology

We followed the systematic literature review methodology for this study. Along with this literature review, it is expected to provide a concise summary of the studies on digitalization in healthcare. Databases, such as Web of Science, PubMed, and Science Direct, were included in this review. While reviewing articles, the scope was narrowed down with keywords based on different perspectives and methods in relation to relevant topics. A systematic literature review was carried out between 2012 and 2022.

3. Results

In this systematic review, the articles published in the specified time period were included and examined. Considering their focus and the methodology used in relevant research, we presented and summarized the studies in the literature in two groups: (1) Digitalization in Healthcare (DiH) and (2) Digitalization Maturity Models (DMM) in healthcare. Our study resulted in 29 studies, of which 12 were in the first group and the other 17 were included in the second group.



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4. Implications

Our systematic review has revealed that studies in DiH focused on standardization of patient care, prevention of medical errors, a better diagnosis process, higher patient safety, the digital readiness of healthcare workers, and the quality of healthcare in general. DMM research, on the other hand, has focused on four main areas: (1) Clinical Decision Support Systems; (2) Level of Health Information Technologies; (3) Digitalized Healthcare Process Management; and (4) Digital Healthcare Innovation Models [3–7].

5. Originality Value

Our study is one of the pioneering studies that systematically explore and summarize the literature on the digitalization of healthcare. Healthcare cannot ignore the data science perspective anymore. The digitalization of the healthcare environment has been in a state of continuous progression. Healthcare providers should be provided with the required digital infrastructure and intelligent applications. That is why our study provides a valuable output to better understand current trends and techniques.

6. Contribution

Similarly, to almost every sector, digitalization in healthcare has been improving very fast. However, health is a complex phenomenon, and thus data quality, security, reliability, and ethical considerations must be taken into consideration in the process. Hence, our study provided a concise summary that shows recent trends, different methodologies, and important challenges. Those trends and challenges might shed light for policymakers and healthcare managers in terms of health technology assessment.

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