

Innovation Management in E-Health Care: The Implementation of New Technologies for Health Care in Europe and the USA

Authors : Dariusz M. Trzmielak, William Bradley Zehner, Elin Oftedal, Ilona Lipka-Matusiak

Abstract : The use of new technologies should create new value for all stakeholders in the healthcare system. The article focuses on demonstrating that technologies or products typically enable new functionality, a higher standard of service, or a higher level of knowledge and competence for clinicians. It also highlights the key benefits that can be achieved through the use of artificial intelligence, such as relieving clinicians of many tasks and enabling the expansion and greater specialisation of healthcare services. The comparative analysis allowed the authors to create a classification of new technologies in e-health according to health needs and benefits for patients, doctors, and healthcare systems, i.e., the main stakeholders in the implementation of new technologies and products in healthcare. The added value of the development of new technologies in healthcare is diagnosed. The work is both theoretical and practical in nature. The primary research methods are bibliographic analysis and analysis of research data and market potential of new solutions for healthcare organisations. The bibliographic analysis is complemented by the author's case studies of implemented technologies, mostly based on artificial intelligence or telemedicine. In the past, patients were often passive recipients, the end point of the service delivery system, rather than stakeholders in the system. One of the dangers of powerful new technologies is that patients may become even more marginalised. Healthcare will be provided and delivered in an increasingly administrative, programmed way. The doctor may also become a robot, carrying out programmed activities - using 'non-human services'. An alternative approach is to put the patient at the centre, using technologies, products, and services that allow them to design and control technologies based on their own needs. An important contribution to the discussion is to open up the different dimensions of the user (carer and patient) and to make them aware of healthcare units implementing new technologies. The authors of this article outline the importance of three types of patients in the successful implementation of new medical solutions. The impact of implemented technologies is analysed based on: 1) "Informed users", who are able to use the technology based on a better understanding of it; 2) "Engaged users" who play an active role in the broader healthcare system as a result of the technology; 3) "Innovative users" who bring their own ideas to the table based on a deeper understanding of healthcare issues. The authors' research hypothesis is that the distinction between informed, engaged, and innovative users has an impact on the perceived and actual quality of healthcare services. The analysis is based on case studies of new solutions implemented in different medical centres. In addition, based on the observations of the Polish author, who is a manager at the largest medical research institute in Poland, with analytical input from American and Norwegian partners, the added value of the implementations for patients, clinicians, and the healthcare system will be demonstrated.

Keywords : innovation, management, medicine, e-health, artificial intelligence

Conference Title : ICEMBIT 2025 : International Conference on Economics, Management of Business, Innovation and Technology

Conference Location : Jeddah, Saudi Arabia

Conference Dates : February 17-18, 2025