

Abstract

This research examines the role of artificial intelligence (AI) and data analytics in healthcare management, focusing on their potential to improve patient outcomes, streamline operations, and enhance decision-making processes. As healthcare systems worldwide face increasing pressure to deliver high-quality care efficiently, AI and data analytics offer promising solutions by enabling more accurate diagnostics, personalized treatment plans, and optimized resource allocation. This study aims to explore how these technologies are being integrated into healthcare management practices and the extent to which they contribute to overall healthcare performance.

A multi-method approach is employed to gain a comprehensive understanding of AI and data analytics' impact in healthcare. The quantitative phase involves analyzing healthcare data, such as patient records, treatment outcomes, and operational metrics, to assess how AI-driven tools and data analytics models influence clinical decision-making, patient flow, and resource utilization. The qualitative component consists of interviews with healthcare professionals, including doctors, administrators, and data scientists, to gather insights into the practical challenges, benefits, and limitations of implementing AI and data analytics in healthcare settings.

The findings from this research provide valuable insights into the transformative potential of AI and data analytics in healthcare management. By integrating both data-driven findings and expert perspectives, the study offers recommendations for healthcare organizations seeking to adopt these technologies effectively, ultimately improving patient care, operational efficiency, and decision-making in the healthcare industry.