Chapter 8
AI-Powered Hospital Accounting:
Towards Sound Financial Management

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ABSTRACT

Healthcare organizations have unique challenges in preserving their financial stability. Due to the rising cost of healthcare, changing payment models, and the need to provide patients with high-quality treatment, hospitals are under continual pressure to optimize their financial operations. Conventional hospital accounting methods may not be enough in this rapidly evolving environment. The potential of artificial intelligence (AI) to transform hospital accounting and provide a means of enhancing financial stability is explored in this chapter. Automation, data analytics, and advanced machine learning algorithms are used in AI-driven hospital accounting to improve accuracy, speed up financial processes, and support well-informed decision-making.

1. INTRODUCTION

Artificial Intelligence, or AI for short, has emerged as one of the most innovative and interesting fields in computer science and technology. It encompasses a wide variety of methods, tactics, and technical developments that enable robots to emulate human intelligence and do tasks that were previously believed to be the exclusive domain of humans. This article examines the theoretical underpinnings of artificial intelligence (AI), shedding light on its many applications and subfields while also discussing its main concepts. The basic goal of artificial intelligence (AI) is to enable machines to learn, comprehend, and adapt in ways that are comparable to those of humans. This involves thinking, problem-solving, making decisions, and understanding spoken language. Systems using artificial intelligence (AI) are designed to handle massive amounts of data, spot trends, and use that information to make wise choices (Vesty et al.,2023).

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2. MACHINE LEARNING: THE AI MAINSTAY

Machine learning (ML), a subset of AI, is its foundation. Machine learning approaches enable non-programmed systems to learn from data. Machines may recognize patterns and make predictions based on previously unknown data by being exposed to training data. A variety of techniques are included in multimedia learning (ML), such as assupervised learning, which involves labelling data to train an algorithm, unsupervised learning, which involves identifying patterns in data, and reinforcement learning, which involves learning by interaction with the environment.

Because deep learning, a kind of machine learning, is so adept at solving challenging issues, it has garnered a lot of attention. At the core of it all are artificial neural networks, which are inspired by the structure of the human brain. The neurons in these networks process data and are grouped into linked layers. Natural language processing, autonomous automobiles, picture and audio recognition, and other industries have profited tremendously from the implementation of deep learning (Kilanko, 2023).

Natural language processing is a crucial component of artificial intelligence (NLP). The goal of natural language processing (NLP) is to enable computers to understand, interpret, and produce human language. Sentiment analysis, text generation, language translation, and chatbots all utilise it. With NLP technology, significant progress has been made in bridging the communication gap between people and robots.

3. APPLICATIONS OF AI

Numerous sectors, including robotics, healthcare, finance, and automotive, are affected by AI. In the healthcare sector, AI aids in drug development, patient care, and diagnostics. AI is utilised by financial organisations for risk assessment, investment strategies, and fraud detection. Artificial intelligence (AI) enables autonomous decision-making in industrial robots and self-driving autos, as well as voice recognition and natural language understanding in personal assistants like Siri and Alexa (Kaur, 2023).

4. THE ASPECTS OF SOCIAL AND ETHICAL

Artificial intelligence (AI) raises ethical and societal questions despite its numerous advantages. The use of AI has raised many concerns, such as algorithmic bias, data privacy, job displacement, and the need for transparency in AI decision-making procedures. These problems need to be addressed in order to fully harness AI's potential (Mohammad et al., 2023).

Artificial intelligence, with its roots in deep learning, machine learning, and natural language processing, is a prime example of technical advancement. From being only an idea, it has developed into the driving force behind several innovations and achievements in a variety of sectors. Understanding AI's underpinnings is necessary to appreciate the technology's potential and the continuous transformative implications it is having on our world. It will be our responsibility to navigate the ethical and social implications of AI as it advances while simultaneously appreciating its potential to benefit both local communities and the global community. Ultimately, enormous authority carries a great deal of responsibility (Meslamani,2023).