DOI: https://doi.org/10.36094/sc.v92.2026.Artificial_Intelligence_as_a_Decision_Support.Dutta.357

ARTICLE

Sci. and Cult. 92 (5–6) : 357-359 (2026)

ARTIFICIAL INTELLIGENCE AS A DECISION-SUPPORT TOOL IN CAPITAL BUDGETING FOR HOSPITAL INFRASTRUCTURE PROJECTS

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High financial expenditures, long gestation period and high uncertainty since demand fluctuates, regulatory requirements, and change in technology are some of the factors that define capital budgeting decisions in the infrastructure projects of hospital. Deterministic capital budgeting models such as the Net Present Value (NPV), Internal rate of return (IRR) and Payback period are usually founded on conventional capital budgeting models that do not reflect the complexity of healthcare investments. Over the past years, Artificial Intelligence (AI) has been identified as a promising decision-support technology that can enhance the accuracy of forecasting, risk estimation and strategic investment decisions. The current paper is a review paper that incorporates the available literature on the use of AI in capital budgeting particularly in the context of hospital infrastructure. The paper will also highlight how machine learning, predictive analytics, and intelligent decision-support systems can be used to enhance the traditional method of financial analysis. The gaps in the research that the paper identifies include the explainability aspect as well as availability and challenges unique to the sector in applying AI-based capital budgeting decisions within a hospital. The conclusion made in the paper is that AI ought to be viewed as a complementary model to managerial judgment in capital budgeting decisions at hospitals rather than a replacement.