

Measuring the Productivity Payoff: Developing An AI Economic Efficiency Index (AEEI)

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Abstract: *Adoption of artificial intelligence (AI) is changing how businesses operate, but it is still difficult to measure its economic impact, especially in India. Using six criteria—cost effectiveness, process automation coverage, productivity gain, decision accuracy, revenue per employee, and customer impact, the study creates the AI Economic Efficiency Index (AEEI), a novel framework for evaluating the productivity payoff of AI. A score between 0 and 100 is created by normalising, weighting, and combining the values. Using a combination of publicly available data and conservative estimates, the study framework applies to four Indian companies: HDFC Bank, ICICI Bank, Flipkart, and Niramai. The study findings indicates that Niramai performs well in diagnostics despite being a startup, ICICI Bank excels in decision accuracy, and Flipkart leads overall due to automation and productivity gains. To benchmark AI adoption, provide managers with useful insights, and inform policy decisions, the AEEI provides a comprehensive, data-driven approach. To increase the index's applicability across industries, future studies can improve weights and add primary data.*

Keywords: Artificial Intelligence, Productivity Measurement, AI Economic Efficiency Index (AEEI)

