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Impact of AI and Automation Tools in SMES: A Literature Review

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Abstract: *SMEs play a pivotal role in the economic development and they usually experience difficulties in the implementation of the latest digital technologies because of their financial, technical, and organizational factors. This paper is a rigorous review of automation in SMEs that are motivated by machine learning (ML), deep learning (DL), and Industry 4.0 technology. It investigates into how supervised and unsupervised machine learning approaches may be used for enterprise resource planning, cybersecurity, risk assessment, innovation management, and decision-making. These techniques include K-means clustering, K-Nearest vilifying, Random Forest, Gradient Boosting, Autoencoders, Principal Component Analysis, and Logistic Regression. The study also compares how well deep learning models—such as Convolutional Neural Networks, LeNet, and Long Short-Term Memory Networks—perform in financial forecasting, supply chain optimization, emotion recognition, and global market analysis. Also, no-code platforms, Robotic Process Automation, and project management systems are considered as automation tools. The findings show that efficiency and decision-making gain are high and the key barriers to adoption are determined. The paper highlights that there should be scalable, explainable, and cost-effective AI solutions and capacity building and policy programs*

Keywords*:* Small and Medium Enterprises (SMEs), Artificial Intelligence, Machine Learning, Deep Learning, Automation, Industry 4.0, Digital Transformation, Predictive Analytics, AI Adoption, Big Data

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