THE IMPACT OF ARTIFICIAL INTELLIGENCE ON SUSTAINABILITY AND OPERATIONAL EFFICIENCY OF SMALL AND MEDIUM SCALE BUSINESSES IN SOUTH-EAST, NIGERIA

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ABSTRACT

Purpose: Most SMEs in Nigeria are still leveraging on analogue computer age where manual operation is preferred to digital operation. This study examines the impact of Artificial intelligence on sustainability and operational efficiency of SMEs in South-East, Nigeria. Specifically, determined the effect of machine learning on operational efficiency of SMEs.

Research Methodology: A descriptive research design was adopted. The population of the study comprised of 27546 SMEs registered and certified under the Cooperate Affairs Commission (CAC). A sample size of 379 was arrived at by utilizing Krejcie and Morgan's 1970 sample size determination formula. Structured questionnaire was the major instrument used for data collection. The instrument was validated and tested for reliability. A reliability coefficient of 0.86 was obtained which was considered reliable.

Result: Data analysis was executed using inferential statistics consisting of simple regression analysis. Result unveiled that machine learning had a significant positive effect on operational efficiency of SMEs in South-East, Nigeria.

Limitations: Inferential statistical tool was adopted that limited the manifestations of other statistical tools. Also, SMEs was restricted to South-East instead of taking cognizance of SMEs in Nigeria at large.

Contribution: Considering the significant effect of AI on both small and medium-sized enterprises, this study stresses without mincing words the efficacy of AI in SMEs and encourages its adoption.

Practical implication: This study encourages policyholders and industry stakeholders to create a very supportive ecosystems that encourages the adoption of AI in SMEs. This can be achieved by providing financial incentives, enhancing access to training programs, and developing regulatory frameworks that promote innovation while ensuring data protection.

Novelty: Works were carried out on this but none focused attention on the effect of machine learning on operational efficiency of SMEs in South-East, Nigeria.

Keywords: Artificial intelligence, machine learning, operational efficiency and sustainability.