

## FACTORS INFLUENCING THE ADOPTION OF ARTIFICIAL INTELLIGENCE BY SMALL AND MEDIUM ENTERPRISES IN AMPARA DISTRICT, SRI LANKA

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### ABSTRACT

This study investigates the factors influencing the adoption of artificial intelligence (AI) by small- and medium-sized enterprises (SMEs) in Ampara District, Sri Lanka. SMEs play a crucial role in the economy, yet they often face challenges in adopting advanced technologies, such as AI. This research aims to identify the benefits, challenges, technological readiness, and social influences that affect AI adoption. Using a structured questionnaire, data were collected from a sample of 373 SMEs in the Ampara District through stratified random sampling. The quantitative approach facilitated the analysis of the relationships between the identified factors and their impact on AI adoption by employing descriptive statistics, correlation analysis, and regression analysis using SPSS software. The findings reveal that perceived benefits such as increased efficiency and cost reduction significantly encourage AI adoption. However, high implementation costs, data security concerns, and limited technical expertise are major barriers. Technological readiness and social influence, particularly peer and customer perceptions, are critical in shaping SMEs' decisions to adopt AI. These results contribute to the academic discourse on technology adoption in SMEs and provide insights that can inform public policy and industry practices. The study highlights the need for targeted strategies to enhance AI adoption, fostering technological advancement, and economic growth within the SME sector in regions similar to Ampara District.

**Keywords:** AI adoption, Ampara district, artificial intelligence, small and medium enterprises (SMEs), technology adoption