

## POTENTIAL OF TRANSFORMING SRI LANKAN FOOD INDUSTRY WITH ROBOTIC TECHNOLOGY IN SRI LANKA

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Sri Lanka's food industry is a crucial component of the nation's economy, ranging from small family-run operations to larger commercial enterprises. Following global trends, the integration of robotic technology in the local food supply chain presents an opportunity to enhance operational efficiency, product quality, and streamline management processes. This study explores the feasibility of adopting robotic technology within Sri Lanka's food sector, highlighting its potential to modernize food production, processing, and service practices. The study assessed the feasibility of robotic technology by focusing on cost-efficiency, necessary infrastructure modifications, and its applicability to local food production. Additionally, study examined the extent of current robotic technology usage in Sri Lankan food establishments and gauged employee attitudes towards its implementation. Data was collected through a structured survey in the Negombo area and analyzed using SPSS, with hypothesis testing to evaluate the relationship between variables. The findings reveal a significant positive correlation between the adoption of robotic technology and improvements in operational performance across food businesses. Specially, 24.1% strongly agreed that robotic technology has the potential to transform the Sri Lankan food industry by increasing efficiency and improving product quality. However, challenges such as high initial investment costs, workforce adaptation and financial feasibility were also highlighted. Study revealed that despite increasing awareness of robotic technology, its practical application remains restricted to businesses with the necessary resources to implement such innovations. Furthermore, 65% of the workforce expressed interest in training programs. The recommendations include promoting robotics adoption through policy support, creating affordable solutions for smaller businesses, and investing in workforce training programs.

**Keywords:** Robotic Technology, Sri Lanka, Food Industry, Automation, Technology Adaptation

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