

# Chapter 14

## Robotics Effect on Green Practices Through Future of Hospitality Operations in the Horn of Africa

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### **ABSTRACT**

*The overarching question of this chapter is: how has robotics influenced green measures in the hospitality sub-sector and adopted sustainable functioning in the Horn of Africa? The study also has a total of 385 respondents with varying age, gender, and nationality the data is analyzed using Kaiser-Meyer-Olki (KMO) Measure of Sampling Adequacy, Confirmatory Factor Analysis (CFA), and Structural Equation Modeling (SEM) with AMOS Software. From this study, the authors establish that integration of robotics in processes essential productivity advantage and support green initiatives in operations in the hospitality industry. The results of KMO test suggest that variable are highly interrelated and hence the choice of factor Analysis was correct. CFA makes structural validity with proposed model by proving that there*

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*is positive relationship between robotics and green practices in terms of resource management and customers. robotics facilitates environmentally friendly strategies for the growth of the hospitality industry.*

## INTRODUCTION

The adoption of robotics in the hospitality industry is slowly increasing all over the world as companies look for ways of increasing efficiency as well as reducing environmental impact (Gaur et al., 2021). Consequently, climate change and environmental degradation are emerging critical issues as the hospitality industry becomes a focal point governance of environmental impacts. The socio economic environment of the horn of Africa as well as the possibility of tourism development is another key area of researching how robotic technology could improve sensitive operations in the face of all these challenges (Kumar et al., 2021). The idea of applying robotics in operation in hospitality can be dated to the applications of automation and artificial intelligence (Limna, 2023). Starting with organizational efficiency and effectiveness in delivering services, the idea has broadened to incorporate on environmental standards as one of its main aims (Gaur et al., 2021). Based on empirical literature, there is evidence that robotic technologies with activities including but not limited to housekeeping, foods service, and maintenance is some strengths in low resource consumption and waste production. However, as with most potential benefits, the practical questions remain. These are; high fixed initial investment cost, staff resistance to change and innovation, and the necessity of sufficient training and facilities (Hahang et al., 2022).

However, there is research gap regarding relationship between robotics and green practices particularly in context of hospitality industry within Horn of Africa (Cardinali & De Giovanni, 2022). Prior work has predominantly concentrated on developed economized; critical geographic locations are still scarce. This chapter seeks to address these gaps by identifying facts, by conducting a detailed examination of the effects of robotics on sustainable practices in the hotel industry (Gaur et al., 2021). The central question guiding this study is: ***“How can the integration of robotic technologies in the hospitality sector of the Horn of Africa enhance green practices and contribute to sustainable operational frameworks?”*** In responding to this question, the chapter aims to help subsequent scholars and policymakers on how to use robotics to achieve sustainable development as a precursor to a sustainable hospitality industry in the region.

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