



The Impact of Robotic Devices in the Food and Beverage Department of Hotels in Lagos State

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Introduction

Robots are industrial or service depending on their use. Service robots provide helpful tasks for humans or equipment, excluding industrial automation (Adebayo & Ogunlade, 2021). Hotel robotics is an innovative way to fulfil modern travellers' needs and increase service consistency. Murphy et al. (2019) say robotic systems are best for repetitive chores like meal preparation, order delivery, and cleaning, freeing up personnel for more personalised visitor encounters. This study examines how robotic technologies affect hotel food and beverage departments in Lagos State, Nigeria. Assessing the functionality of robotic devices used in hotel food and beverage departments and how they increase service quality and efficiency in selected Lagos State hotels. This study examines how robotics in hospitality affects service efficiency, operational cost, and customer satisfaction as it grows globally.

Methodology

The study examines four top hotels—Eko Hotel and Suites, Sheraton Hotel, Federal Palace Hotel, and Radisson Hotel—known for their excellent service and popularity. Through preliminary enquiries and direct contact with hotel HR departments, 300 employees were identified. The sample size of 150 hotel employees was found using Taro Yamane's method, $n=1+N(e)2N$, which is 171. The sample was chosen due to time restrictions, resource availability, staff willingness to participate, and its 50% population representation, assuring adequate representation and reliable generalisation of findings. Data were collected using semi-structured interviews and questionnaires using non-probability convenience sampling. The research used ANOVA and inferential statistics on primary and secondary sources.

Results and discussion

Many consumers (60%) have been using robotic devices for 6 to 15 years, demonstrating that food and beverage services are just starting to automate. The same amount (47.3%) said yes and no to whether robotic gadgets work well in kitchens, bars, and restaurants. Most participants agreed or strongly agreed that robotic equipment lowered hotel expenses by minimizing human labour (72%), operating costs (63.3%), and customer service (70%). Significant benefits were lower operational expenses, better service delivery, and fewer human errors. However, performance inconsistency and robotic accuracy distrust persist. A study found a substantial influence of robotic device usage on food and beverage service outcomes ($F = 120.453$, $p < .001$), indicating that robotic automation enhances hotel service delivery in Lagos State

Conclusion

The study found that robot usage is rising in kitchens, bars, and restaurants, but is unequal across the industry. Robots cut operational expenses, increase customer service, and boost efficiency. Limited deployment, performance unpredictability, and low accuracy trust persist.

Keywords: Food and Beverage, Hotel Industry, Hotel Operations, Robotic Devices, Service Delivery.