

Preventive Maintenance and Employee Job Performance in Five Star-Rated Hotels in Nairobi City County, Kenya

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Abstract

Preventive maintenance is an essential management practice in the hospitality industry due to its role in enhancing equipment reliability, operational continuity, and service quality. However, its direct influence on employee job performance remains underexplored, particularly within Kenya's five-star hotel sector. This study examined the effect of preventive maintenance on employee job performance in five-star rated hotels in Nairobi City County, Kenya. The study was anchored on the Model of Work-Role Performance and Maintenance Management Theory. Guided by the pragmatic research paradigm, the study adopted a mixed-methods approach using a concurrent convergent research design. The target population comprised 3,127 employees and nine maintenance managers drawn from the nine five-star rated hotels in Nairobi City County. A sample of 355 employees was selected through stratified and simple random sampling, while all nine maintenance managers were purposively selected for interviews. Data were collected using a structured five-point Likert-scale questionnaire adapted from previous studies and semi-structured interview schedules. The research instruments demonstrated acceptable internal consistency, with Cronbach's alpha coefficients of 0.829 for preventive maintenance and 0.762 for employee job performance. Quantitative data were analysed using descriptive statistics, Pearson's correlation, and simple linear regression, while qualitative data were analysed using thematic content analysis. Regression assumptions were tested prior to analysis, confirming independence of errors (Durbin-Watson = 1.530) and the absence of multicollinearity. The findings indicated that preventive maintenance practices were consistently implemented across the participating hotels, with mean scores ranging from 4.05 to 4.62, while employee job performance recorded high mean scores ranging from 3.73 to 4.47. Correlation analysis revealed a positive and statistically significant relationship between preventive maintenance and employee job performance ($r = 0.393$, $p = .001$). Regression analysis further established that preventive maintenance

significantly predicted employee job performance ($B = 0.231$, $\beta = 0.230$, $t = 4.939$, $p = .001$). Qualitative findings converged with the quantitative results, revealing that routine inspections, scheduled servicing, maintenance documentation, and technology-supported maintenance systems enhanced operational stability, reduced equipment failures, improved workplace safety, and enabled employees to perform their duties more efficiently. The study concludes that preventive maintenance significantly enhances employee job performance in five-star rated hotels by improving operational reliability and creating conducive working conditions that support service excellence. The study recommends that hotel managers institutionalise structured preventive maintenance programmes supported by adequate financial resources, digital maintenance management systems, and continuous technical training. It further recommends that the Tourism Regulatory Authority strengthen hotel quality assurance by incorporating preventive maintenance standards into hotel classification and compliance assessments, while the Kenya Bureau of Standards develops sector-specific preventive maintenance guidelines for the hospitality industry.

Keywords: Preventive Maintenance, Employee Job Performance, Five Star Rated Hotels, Nairobi County, Kenya

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Funding: The author received no financial support for the research, authorship and/or publication of this article

Data Availability Statement: The authors confirm that the data supporting the findings of this study are available within the article [and/or] its supplementary materials or upon reasonable request.

Competing interests: The authors declare no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Introduction

The hospitality industry is one of the world's most labour-intensive service sectors, where organizational success largely depends on employees' ability to deliver consistent, high-quality services through continuous employee–guest interaction (Baum, 2015). Unlike manufacturing organizations that produce tangible goods, hotels deliver services in real time, making employee job performance a critical determinant of

customer satisfaction, service quality, and organizational competitiveness. Consequently, hotel performance depends not only on human resources but also on the availability of reliable physical facilities and equipment that enable employees to perform their duties efficiently. A conducive physical work environment supported by effective maintenance practices allows employees to execute their tasks proficiently, adapt

to changing operational demands, and respond proactively to customer needs.

Kenya's hospitality industry has experienced remarkable recovery and growth following the COVID-19 pandemic. Tourism earnings increased to Kshs. 452.20 billion in 2024, representing a 19.79% increase from the previous year, while hotel bed-night occupancy approached 10 million, with Nairobi's luxury hotel segment recording significant growth (Kenya National Bureau of Statistics [KNBS], 2025; Tourism Research Institute [TRI], 2024). This growth has intensified the need for hotels to maintain high standards of service delivery in an increasingly competitive environment. However, rising operational costs, aging infrastructure, and increasing customer expectations continue to challenge hotel operations. In many hotels, equipment failures affecting heating, ventilation and air-conditioning (HVAC) systems, elevators, kitchen equipment, and information technology infrastructure disrupt operations, delay service delivery, increase employee workload, and ultimately compromise employee job performance. Studies have further shown that supportive work environments, effective maintenance practices, and favourable organizational policies significantly enhance employee performance (Nganga & Wanyoike, 2022).

Maintenance management comprises the technical and managerial activities undertaken to preserve or restore physical assets so that they continue performing their intended functions efficiently and reliably (Öztürk, 2019; Al Mbaidheen & Alawneh, 2017). Organizations commonly employ reactive, preventive, and predictive maintenance strategies. Among these, preventive maintenance involves planned inspections, servicing, adjustments, and replacement of equipment before failures occur, thereby reducing unplanned

downtime, extending asset life, improving workplace safety, and supporting uninterrupted operations (Basri et al., 2017; Moghaddam & Usher, 2010). Advances in digital technologies have further strengthened preventive maintenance through the adoption of predictive maintenance systems such as Computerized Maintenance Management Systems (CMMS), Internet of Things (IoT) sensors, and data analytics that enable early fault detection and timely intervention (Trojan & Marçal, 2017).

Globally, more than 58% of hotels with over 100 rooms had adopted at least one digital maintenance management technology by 2025, reflecting the increasing strategic importance of proactive maintenance in hospitality operations (DataIntelto, 2025). Although preventive maintenance has traditionally been associated with improved equipment reliability, reduced maintenance costs, and enhanced operational efficiency (Ilham & Mainil, 2025), its contribution to employee job performance has received comparatively limited empirical attention. Existing studies have largely concentrated on technical and operational outcomes while giving less attention to behavioural outcomes such as employee proficiency, adaptability, and proactivity. In Kenya, Makomere et al. (2016) identified inadequate budgets and shortages of technical skills as major constraints to implementing preventive maintenance programmes, while Nyawa (2020) established that autonomous and total productive maintenance improved organizational performance but did not examine employee behavioural outcomes. Similarly, Were and Maranga (2022) reported a positive relationship between hotel facilities management practices and employee performance among three- to five-star hotels in Nairobi County. However, maintenance was examined as part of a broader

facilities management construct without isolating the specific contribution of preventive maintenance. More recently, Chaiyapruksayanonde and Ponchaitiwat (2025) demonstrated that supportive work environments enhance employee job performance in Thailand's hospitality industry, although their study focused primarily on psychosocial work environment factors rather than the physical maintenance environment. Consequently, empirical evidence on the direct influence of preventive maintenance on employee job performance remains limited, particularly within Kenya's luxury hotel sector.

Nairobi City County provides an appropriate context for investigating this relationship because it hosts the largest concentration of five-star rated hotels in Kenya and serves as the country's commercial, diplomatic, and Meetings, Incentives, Conferences, and Exhibitions (MICE) tourism hub (TRI, 2024). The city's luxury hotels operate sophisticated building systems, experience high occupancy levels, and serve demanding international and corporate clientele, making effective maintenance essential for uninterrupted service delivery. Under these conditions, failures in critical facilities such as HVAC systems, elevators, kitchen equipment, and information technology infrastructure can directly affect employees' ability to perform their duties efficiently and maintain expected service standards. Despite the strategic importance of preventive maintenance in such environments, limited empirical evidence exists on its influence on employee job performance in Kenya's five-star hotels.

Therefore, this study examined the effect of preventive maintenance on employee job performance in five-star rated hotels in Nairobi City County, Kenya.

Theoretical Framework

This study is anchored in two complementary frameworks. While earlier studies primarily categorized performance into task and contextual performance (Koopmans et al., 2011), Griffin et al. (2007) proposed the Model of Work-Role Performance, which conceptualizes employee performance through proficiency, adaptivity, and proactivity dimensions that incorporate interdependence and uncertainty, both endemic in hotel operations ((Griffin et al., 2007).

Maintenance Management Theory (Al Mbaidheen & Alawneh, 2017; Öztürk, 2019) frames maintenance as a strategic practice that preserves equipment functionality and creates the physical conditions under which employees can execute their roles. For this study, employee job performance is defined operationally as the aggregated value of behavioural episodes demonstrated by hotel employees over a standard work interval, encompassing proficiency (efficient execution of prescribed tasks), adaptivity (effective adjustment to unexpected changes), and proactivity (self-initiated actions aimed at improving processes). This definition treats performance as behaviour rather than outcome, consistent with Campbell's (1990) foundational view, yet extends beyond Campbell's (1990) eight-dimensional military framework and Borman and Motowidlo's (1993) task-versus-contextual taxonomy by capturing emergent behaviours demanded in uncertain, interdependent service contexts. While Borman and Motowidlo's (1993) distinction remains influential, it offers limited guidance where job boundaries are fluid and employees must spontaneously compensate for operational disruptions. Griffin et al. (2007) is more appropriate for three reasons: it explicitly incorporates

adaptivity essential when equipment failures alter work requirements; it distinguishes individual, team and organizational levels, acknowledging that hotel service delivery is rarely a solo endeavour; and it includes proactivity, rewarding employees who anticipate maintenance needs rather than only evaluating reactive compliance. In five-star operations, proficiency is reflected in efficient room turnover, check-in within brand standards, and error-minimised food service; adaptivity appears when a banquet server rearranges seating within minutes after audio-visual equipment malfunctions or a front-desk agent reallocates rooms during an overbooking crisis triggered by an elevator outage; proactivity is evidenced when a housekeeper reports recurring water pressure drops to engineering or a sous-chef suggests energy-saving practices after noticing abnormal consumption patterns.

Empirical Review and Hypotheses Development

Employee job performance in the hospitality industry has been linked to organisational practices that provide employees with reliable facilities, operational resources, and conducive working environments. Empirical evidence indicates that maintenance practices contribute to improved employee productivity by reducing operational disruptions, ensuring equipment reliability, and supporting service quality. In Kenya, Kathukya et al. (2025) found that employee engagement significantly enhances performance among employees in five-star hotels, while Were and Maranga (2022) established that hotel facilities management practices positively influence employee performance in Nairobi's classified hotels, demonstrating the importance of functional work

environments in supporting employee effectiveness.

Globally, Chan et al. (2018) examined sustainable facilities management practices in luxury hotels in Asia using case studies, interviews, document reviews, and site observations. The study found that hotels implementing planned preventive maintenance programmes achieved higher operational efficiency, improved workplace safety, and enhanced employee productivity. Similarly, studies by Üngüren and Arslan (2021) showed that well-maintained hotel facilities reduce workplace stress and operational disruptions, thereby improving employee performance, while Febryan and Kamilia (2025) reported that supportive work environments significantly enhance employee performance through improved job satisfaction. These findings collectively suggest that preventive maintenance contributes to improved employee performance by ensuring reliable physical infrastructure and uninterrupted hotel operations. In Africa, Aigbavboa and Thwala (2016) found that planned maintenance significantly improved organisational performance by reducing equipment failures and creating safer working environments across commercial and hospitality facilities in South Africa.

In Kenya, Were and Maranga (2022) employed a descriptive survey involving employees from three- to five-star hotels in Nairobi County and found that maintenance management was the strongest predictor of employee performance among the facilities management dimensions examined. Similarly, Kosgey et al. (2024) established that maintenance management significantly improved workers' performance by enhancing operational efficiency, reducing equipment downtime, and creating favourable working conditions in classified hotels.

These findings affirm the importance of maintenance practices in supporting employee performance within Kenya's hospitality industry.

Despite the consistent evidence that maintenance practices positively influence employee performance, important empirical gaps remain. Most previous studies have examined maintenance management or facilities management as broad organisational constructs, without specifically isolating preventive maintenance as the independent variable. Furthermore, Kenyan studies have largely focused on combined samples of three- to five-star hotels, making it difficult to establish the specific contribution of preventive maintenance within five-star rated hotels, where operational reliability and service quality standards are considerably higher. Consequently, empirical evidence on the direct effect of preventive maintenance on employee job performance in five-star hotels remains limited. The present study addresses this gap by examining the relationship between preventive maintenance and employee job performance in five-star rated hotels in Nairobi City County. Based on the reviewed empirical literature, the following null hypothesis was formulated:

H₀₁: Preventive maintenance has no statistically significant effect on employee job performance in five-star rated hotels in Nairobi City County, Kenya.

Research Methodology

Design, Population, Sampling and Data Collection

This study was grounded in the pragmatic research paradigm, which is appropriate for studies seeking to understand complex research problems by integrating both quantitative and qualitative approaches. Pragmatism

assumes that no single method is sufficient to explain social phenomena and therefore supports the use of multiple methods to provide a comprehensive understanding of the research problem (Creswell & Plano Clark, 2018; Morgan, 2014). In the present study, the pragmatic paradigm justified the adoption of a mixed-methods approach because the quantitative data established the magnitude and direction of the relationships between preventive maintenance management practices and employee job performance, while the qualitative data provided contextual explanations that enriched the quantitative findings. The study adopted an explanatory concurrent mixed-methods design, in which quantitative and qualitative data were collected during the same period, analysed separately, and integrated during interpretation to corroborate and explain the findings (Creswell & Plano Clark, 2018). Quantitative data were collected using structured questionnaires administered to hotel employees, while qualitative data were collected through face-to-face interviews with maintenance managers. Data collection was conducted concurrently over a period of six weeks, enabling the two datasets to reflect the same organisational context.

The study was conducted in Nairobi City County, Kenya, because it hosts the largest concentration of five-star rated hotels in the country and serves as the nation's principal tourism, business, and conference destination. These hotels operate sophisticated physical facilities that require structured maintenance management systems, making the county an appropriate setting for examining the relationship between maintenance management practices and employee job performance. The study population comprised all nine five-star rated hotels in Nairobi City County that

were licensed and classified by the Tourism Regulatory Authority (TRA, 2020) at the time of the study. Since only nine hotels met the inclusion criteria, the study adopted a census approach by including all the hotels rather than selecting a sample. The target population consisted of 3,127 employees and nine maintenance managers, one from each hotel. Using Taro Yamane's (1967) formula, a sample of 355 employees was determined, while all nine maintenance managers were included through purposive selection because of their specialised knowledge of maintenance management practices.

This study employed purposive, census, stratified, simple random and proportionate sampling techniques. Purposive sampling was used in selecting the five star rated hotels in Nairobi City, County. On the other hand, nine hotel managers were also purposively selected from the selected five star rated hotels in Nairobi County, with preference given to maintenance managers of the hotels. Census sampling technique was used to select all the nine five star rated hotels in Nairobi City County according to tourism regulatory authority 2020. The employees were stratified based on their respective departments Front Office, Food & Beverage, and Housekeeping which represent the core operational units within five-star rated hotels in Nairobi City County, with each department forming a distinct stratum. Primary data were collected using self-administered structured questionnaires for employees and semi-structured interview schedules for the nine maintenance managers. The questionnaires gathered information on the study variables and respondents' demographic characteristics, including gender, age, education level, department, and length of service. To ensure confidentiality and encourage honest responses, the questionnaires were

completed anonymously and administered by the researcher with the assistance of trained research assistants. Follow-up visits, emails and phone calls were conducted to improve the response rate, resulting in 323 of the 355 questionnaires being returned, representing a response rate of 90.99%. Face-to-face interviews lasting approximately 30–45 minutes were conducted with all nine maintenance managers, audio-recorded with participants' consent, and transcribed verbatim for qualitative analysis. This response rate was found suitable basing on recommendations by Saunders, Lewis and Thornhill (2009). Descriptive and inferential statistics included Pearson correlation and regression analysis were used to analyse data collected using the Statistical Package for Social Sciences (SPSS version 27). The findings obtained were presented descriptively using tables.

Measures, Reliability, and Validity

The questionnaire responses were anchored on a five-point Likert scale ranging from 1 = Never (N), 2= Rarely (R), 3=Sometimes (S), 4= Often (O) and 5 = Always (A). The study adapted the scales used in the previous studies. The independent variable under maintenance management practices; preventive maintenance was measured by; Routine inspection, replacement of worn parts, scheduled updates and safety equipment testing. while the dependent variable; employee job performance was measured by task proficiency, task adaptivity and task proactivity. The reliability of the scales was assessed using Cronbach's alpha coefficient. The results, as shown in Table 1, indicate high internal consistency for preventive maintenance ($\alpha = 0.829$) and employee job performance ($\alpha = 0.762$) exceeding the acceptable threshold of 0.70-0.95 (Saunders *et al.*, 2009). Based on this finding, all indicators are considered

reliable, and further analysis is allowed as indicated in Table 1.

Table 1: Reliability Analysis

	Cronbach's Alpha	N of Items
Preventive Maintenance	0.829	08
Employee Job Performance	0.762	10

Source: Research Data, (2025)

Content validity was ensured through expert review i.e. supervisors, lecturers from department and colleagues. Advice given by them helped the researcher to determine the validity

of the research instrument. To confirm the factor structure, Exploratory Factor Analysis (EFA) was conducted. The suitability of the data for EFA was confirmed by a Kaiser–Meyer–Olkin (KMO) value of 0.548 for Employee job performance and 0.754 for Preventive maintenance, and a significant Bartlett's test of sphericity ($p < 0.001$) for both scales. The KMO value exceeded 0.5, and Bartlett's sphericity test was significant at the 0.001 level, confirming sampling suitability and adequateness for EFA (Li *et al.*, 2020) as shown in Table 2 and Table 3, respectively.

Table 2: KMO and Bartlett's Test for Employee Job Performance

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.548
	Approx. Chi-Square	1562.645
Bartlett's Test of Sphericity	Df	45
	Sig.	.000

Source: Research Data, (2025)

Table 3: KMO and Bartlett's Test for Preventive Maintenance

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.754
	Approx. Chi-Square	790.743
Bartlett's Test of Sphericity	Df	28
	Sig.	.000

Source: Research Data, (2025)

Model Specification

To test the hypothesis, the study adopted a linear regression model (Baron & Kenny, 1986). The following equation was used.

$$Y = \alpha + \beta_1 X_1 + \varepsilon \dots \dots \dots \text{Equation 1}$$

Where,

Y = Employee Job Performance

α = Constant

$\beta_1 \dots \beta_3$ = the regression coefficients

X_1 = Preventive Maintenance

ε : Error term

Data analysis

The data collected were edited, systematized to eliminate errors, and coded for analysis using the statistical package for social sciences (SPSS) tool version 27. The SPSS package was used for analysing data. Pearson correlation analysis to establish the relationship between study variables was also conducted. Regression analysis was also conducted to determine the effect of Preventive Maintenance on Employee Job

Performance in star-rated hotels in Nairobi City County, Kenya.

Results and Discussion

Demographic Information

Data were collected from 323 employees across nine five-star hotels in Nairobi City County. The demographic profile reveals a predominantly female

workforce (56.0%), which is consistent with global hospitality labour patterns where women constitute the majority of frontline service staff. The concentration of respondents in the 26–35 and 36–45 age brackets (74.0% combined) suggests a mature, experienced workforce capable of delivering the sophisticated service standards expected in five-star properties.

Table 4: Employees’ Personal Characteristics

		N	N %
Gender	Male	142	44.0%
	Female	181	56.0%
		323	100%
Age	18-25 years	27	8.4%
	26-35 years	128	39.6%
	36-45 years	111	34.4%
	46-55 years	36	11.1%
	Above 55 years	21	6.5%
		323	100%
Highest Education Level	Never went to school	0	0.0%
	Primary	0	0.0%
	Secondary school	32	9.9%
	Diploma	124	38.4%
	Degree	165	51.1%
	Master’s degree and above	2	0.6%
		323	100%
Status of Employment	Permanent	214	66.3%
	Casual	59	18.3%
	Internship	50	15.5%
		323	100%
Department	Front office	58	18.0%
	Food and beverage	131	40.6%
	Housekeeping	134	41.5%
		323	100%
Job Tenure	5 years or less	84	26.0%
	6-10 years	132	40.9%
	11-15 years	78	24.1%
	More than 16 years	29	9.0%
		323	100%

Source: Research Data, (2025)

The high proportion of degree holders (51.1%) reflects the educational requirements of Nairobi’s luxury hotel sector, where employers increasingly

favour formally trained personnel. The dominance of permanent contracts (66.3%) is noteworthy given Kenya’s hospitality industry has historically

struggled with high turnover rates exceeding 50% (Onyango et al., 2022); the relatively stable employment structure in this sample may reflect the premium segment’s investment in retention. Housekeeping and food and beverage together accounted for 82.1% of the sample, mirroring the labour intensity of these operational departments (Baum, 2015). The tenure distribution, with 65.0% of employees having served more than 5 years, indicates that these properties retain

experienced staff, a factor that may amplify the performance benefits of well-maintained facilities.

Preventive maintenance as experienced in the hotels

Preventive maintenance practices were assessed using eight indicators measuring routine inspection, scheduled servicing, safety testing, maintenance reporting, and documentation. Table 5 present the summarized findings.

Table 5: Preventive Maintenance Descriptive Results

	N	Min	Max	Mean	Std. Deviation
The hotel regularly inspects equipment for early failure signs.	323	2	5	4.20	.745
Inspections occur even when equipment seems functional.	323	1	5	4.05	.991
Departments get timely updates from inspection reports.	323	3	5	4.52	.702
Departments report worn equipment immediately.	323	3	5	4.27	.837
Maintenance follows a set timetable i.e. Preventive maintenance calendar.	323	2	5	4.05	.885
The hotel services equipment promptly.	323	3	5	4.12	.771
Safety devices are tested routinely even without incidents.	323	2	5	4.06	.893
The hotel maintains a log for all safety equipment checks.	323	3	5	4.62	.600
Valid N (listwise)	323				

Source: Research Data, (2025)

As presented in Table 5, the mean scores ranged from 4.05 to 4.62 with standard deviations ranging from 0.600 to 0.991, indicating that employees generally agreed that preventive maintenance practices were consistently implemented in the five-star hotels. The highest-rated practice was maintaining logs for safety equipment checks (M = 4.62, SD = 0.600), followed by timely updates from inspection reports (M = 4.52, SD = 0.702), suggesting that documentation and communication of maintenance activities

are well established. Conversely, inspections conducted when equipment appeared to be functioning normally (M = 4.05, SD = 0.991) and adherence to a preventive maintenance calendar (M = 4.05, SD = 0.885) recorded comparatively lower mean scores, indicating opportunities to strengthen routine maintenance scheduling despite the generally high level of implementation. These findings suggest that five-star hotels in Nairobi City County have embraced preventive maintenance as an

important operational practice aimed at ensuring equipment reliability and uninterrupted service delivery. The findings corroborate those of Were and Maranga (2022), who established that maintenance management was the most influential facilities management practice affecting employee performance in three-to five-star hotels in Nairobi County. Their study showed that hotels with well-maintained facilities experienced improved operational efficiency and better employee performance because employees were able to execute their duties with minimal equipment failures and workplace interruptions. Similarly, Kosgey et al. (2024) found that effective maintenance management significantly enhanced workers' performance by improving operational efficiency and

providing favourable working conditions in classified hotels in Nairobi County. This suggests that preventive maintenance has become an integral component of operational management within Kenya's hospitality industry, particularly among highly rated hotels where service reliability is essential.

Descriptive Statistics for Employee Job Performance

Employee job performance was measured using ten indicators reflecting task proficiency, adaptability, and proactivity. The descriptive results presented in Table 6 show mean scores ranging from 3.73 to 4.47, indicating that employees generally reported high levels of job performance.

Table 6: Employee Job performance Descriptive Results

	N	Min	Max	Mean	Std. Deviation
I complete my assigned job duties efficiently.	323	3	5	3.98	.516
I ensure accuracy in my work production.	323	3	5	4.47	.622
I follow company policies when performing my tasks.	323	3	5	4.09	.726
I quickly adjust to changes at work.	323	2	5	3.73	.948
I remain productive when facing unexpected challenges at work.	323	3	5	3.82	.723
I learn with ease new technologies required for my job.	323	3	5	3.82	.638
I am flexible in handling different tasks when needed.	323	1	5	4.18	1.023
I take the initiative to improve work processes without being asked.	323	2	5	3.89	.846
I proactively share innovative ideas to enhance work efficiency.	323	1	5	3.88	.894
I take responsibility for solving work-related challenges.	323	2	5	4.09	.783
Valid N (listwise)	323				

Source: Research Data (2025).

The highest mean score was recorded for ensuring accuracy in work production (M = 4.47, SD = 0.622), followed by flexibility

in handling different tasks (M = 4.18, SD = 1.023), adherence to company policies (M = 4.09, SD = 0.726), and taking

responsibility for solving work-related challenges ($M = 4.09$, $SD = 0.783$). Comparatively lower mean scores were observed for quickly adjusting to workplace changes ($M = 3.73$, $SD = 0.948$) and learning new technologies ($M = 3.82$, $SD = 0.638$), suggesting that adaptability, while generally positive, remains an area requiring further enhancement. Hence, the findings indicate that employees in five-star hotels consistently perform their assigned responsibilities while demonstrating satisfactory levels of adaptability and proactive behaviour. These findings are consistent with Kathukya et al. (2025), who found that employee engagement significantly improved employee performance among five-star hotels in Kenya by enhancing commitment, efficiency, and enthusiasm in service delivery. Similarly, Were and Maranga (2022) reported that employees working in hotels with effective facilities management practices demonstrated higher performance because reliable facilities enabled them to perform their duties efficiently with minimal operational disruptions. The present findings therefore reinforce existing Kenyan evidence that a supportive working environment contributes to improved employee performance within the hospitality industry.

Correlation Analysis

Pearson product-moment correlation analysis was conducted to examine the relationship between preventive maintenance and employee job performance. As shown in Table 7, preventive maintenance had a positive and statistically significant correlation with employee job performance ($r = 0.393$, $p < .001$). The results indicate that improvements in preventive maintenance practices are associated with higher levels of employee job performance among employees in five-star hotels in Nairobi City County. The findings are consistent

with those of Were and Maranga (2022), who reported a significant positive relationship between maintenance management practices and employee performance in classified hotels in Nairobi County. Likewise, Kosgey et al. (2024) found that maintenance management practices significantly improved workers' performance by reducing operational interruptions and creating conducive working environments. These findings suggest that effective preventive maintenance contributes to improved employee performance by ensuring the availability of functional equipment and reducing workplace disruptions that could hinder service delivery.

Table 7: Correlation Matrix

Variable	Preventive maintenance	Employee Job performance
Preventive maintenance		
Employee Job performance	0.393*	

*Note. $N = 323$. * $p < 0.001$.

Hypothesis Testing

The study tested the null hypothesis that preventive maintenance has no statistically significant relationship with employee job performance in five-star rated hotels in Nairobi City County. The simple linear regression results presented in Table 8 indicate that preventive maintenance was a positive and statistically significant predictor of employee job performance ($B = 0.231$, $SE = 0.047$, $\beta = 0.230$, $t = 4.939$, $p = .001$).

The unstandardized coefficient indicates that a one-unit increase in preventive maintenance is associated with a 0.231-unit increase in employee job performance, while the standardized coefficient shows that a one standard deviation increase in preventive maintenance corresponds to a 0.230

standard deviation increase in employee job performance. Consequently, the null hypothesis was rejected, implying that preventive maintenance has a significant positive relationship with employee job performance among employees of five-star rated hotels in Nairobi City County. These findings support previous empirical evidence from Were and Maranga (2022) found that maintenance management was the strongest predictor of employee performance among facilities management practices in Nairobi's classified hotels. Similarly, Kosgey et al. (2024) established that effective maintenance management significantly enhanced employee productivity by

improving operational efficiency, reducing equipment downtime, and creating favourable working conditions. The present findings extend these earlier studies by demonstrating that preventive maintenance specifically, rather than maintenance management as a broad construct, significantly predicts employee job performance in five-star rated hotels. This provides empirical evidence that routine inspections, scheduled servicing, safety testing, and maintenance documentation are important operational practices for enhancing employee performance in Kenya's luxury hospitality sector.

Table 8: Regression Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		T	Sig.
	β	Std. Error	Beta			
1 (Constant)	4.466	.374			11.938	.001
Preventive maintenance	.231	.047	.230		4.939	.001

a. Dependent Variable: Employee job performance

Source: Research Data, (2025)

Qualitative Analysis

Semi-structured interviews were conducted with maintenance managers from the nine participating five-star hotels to gain deeper insights into preventive maintenance practices and their influence on employee job performance. The interview data were analysed using thematic content analysis. One dominant theme emerged that is consistent preventive maintenance supports operational continuity and enhances employee job performance by reducing equipment failures and workplace disruptions. The participants consistently indicated that preventive maintenance was embedded in routine hotel operations through scheduled inspections, servicing, equipment monitoring, and maintenance

planning. One maintenance manager explained that the hotel had adopted advanced preventive maintenance technologies to detect equipment faults before breakdowns occurred:

"Maintenance in our hotel is highly technology-driven and predictive in nature. We utilize a Computerized Maintenance Management System (CMMS) integrated with smart sensors to monitor critical systems such as chillers, pumps, and HVAC units in real time. These sensors automatically generate alerts when irregularities are detected, enabling the maintenance team to take corrective action before any actual breakdown occurs." (MM1)

Similarly, another respondent emphasized the importance of routine

inspections in preventing operational interruptions:

"Equipment breakdowns are almost never allowed to happen in our establishment because maintenance checks are conducted on a daily basis. Daily inspections ensure that any potential issues are identified and resolved promptly, minimizing operational disruptions." (MM2)

Other respondents explained that preventive maintenance was implemented using structured maintenance schedules, with inspection frequencies determined by the criticality of hotel equipment. For example, one manager reported:

"Maintenance frequency varies depending on the type and importance of equipment. Critical systems such as HVAC and refrigeration units are checked weekly, while elevators are inspected quarterly." (MM3)

Likewise, another participant observed:

"Preventive inspections are carried out daily, with more comprehensive servicing conducted monthly. Daily checks focus on identifying minor issues that can be corrected immediately, while monthly maintenance allows for in-depth evaluation and replacement of worn-out parts." (MM5)

Across all nine interviews, maintenance managers consistently reported that five-star hotels predominantly relied on preventive and predictive maintenance approaches characterised by daily, weekly, monthly, quarterly, and annual inspection schedules. Several hotels had also adopted digital maintenance technologies such as CMMS and sensor-based monitoring systems to facilitate early fault detection and minimise equipment downtime. The findings suggest that preventive maintenance is not merely a technical activity but an operational strategy that supports uninterrupted service delivery, improves

workplace safety, and enables employees to perform their duties efficiently.

These qualitative findings corroborate the quantitative results, which showed that preventive maintenance was positively associated with employee job performance. They are also consistent with the findings of Were and Maranga (2022), who established that maintenance management was the strongest facilities management practice influencing employee performance in Nairobi's classified hotels because well-maintained facilities reduced operational interruptions and improved employees' working conditions. Similarly, Kosgey et al. (2024) found that effective maintenance management enhanced workers' performance by improving operational efficiency and ensuring the availability of functional facilities. The adoption of routine inspections, scheduled servicing, and technology-supported maintenance reported by the interview participants therefore reinforces previous evidence that proactive maintenance practices create an environment that enables employees to deliver high-quality service while minimising disruptions to hotel operations.

Conclusion

The study concludes that preventive maintenance is a significant determinant of employee job performance in five-star rated hotels in Nairobi City County. The descriptive findings demonstrated that preventive maintenance practices, including routine inspections, scheduled servicing, safety testing, and maintenance documentation, were consistently implemented across the hotels. Correlation and regression analyses further established that preventive maintenance had a positive and statistically significant effect on employee job performance, leading to

the rejection of the null hypothesis. The qualitative findings reinforced these results by showing that regular preventive maintenance minimizes equipment failures, reduces operational interruptions, enhances workplace safety, and enables employees to perform their duties more efficiently. Overall, the findings suggest that investing in structured preventive maintenance programmes is essential for sustaining operational reliability, improving service delivery, and enhancing employee job performance in five-star hotels.

This study makes an important contribution by addressing the limited empirical evidence on the relationship between preventive maintenance and employee job performance within the Kenyan hospitality sector. Unlike previous studies that focused primarily on equipment reliability, operational efficiency, or guest satisfaction, this research demonstrates that preventive maintenance also contributes to employee job performance.

Implications for Theory

The findings reinforce the applicability of the Model of Work Role Performance (Griffin et al., 2007) by demonstrating that supportive operational conditions created through preventive maintenance enhance employees' ability to perform their duties effectively. The study also provides empirical support for Maintenance Management Theory (Mobley, 2002; Moubray, 1997), which posits that proactive maintenance improves organizational outcomes by minimizing equipment failures and operational disruptions. Through establishing that preventive maintenance significantly improves employee job performance, the study extends maintenance management theory beyond equipment reliability to include

its contribution to employee performance in service organizations.

Recommendations for Policy, Practice and Future Research

1. Hotel owners and general managers should institutionalize preventive maintenance as a strategic management function by implementing structured daily, weekly, monthly, quarterly, and annual maintenance schedules. Hotels should also invest in adequate maintenance budgets, skilled technical personnel, digital maintenance management systems, and continuous staff training to ensure timely inspections, servicing, and documentation of maintenance activities. Such measures will enhance equipment reliability, minimize operational disruptions, and improve employee job performance.
2. The Tourism Regulatory Authority (TRA) should strengthen hotel classification and quality assurance requirements by incorporating preventive maintenance management into hotel grading and periodic compliance inspections. Hotels should be required to demonstrate documented maintenance schedules, equipment inspection records, servicing logs, and maintenance performance indicators as part of the quality assurance process. This will promote operational reliability and consistent service standards across classified hotels.
3. The Kenya Bureau of Standards (KEBS) should develop sector-specific preventive maintenance guidelines for the hospitality

industry that provide minimum standards for maintenance planning, inspection frequencies, servicing procedures, maintenance documentation, and equipment monitoring. Standardized maintenance practices would promote consistency, operational excellence, and improved service quality among star-rated hotels.

4. The Directorate of Occupational Safety and Health Services (DOSHS) should encourage hotels to integrate preventive maintenance into occupational safety and health management systems. Regular inspection and servicing of equipment should be emphasized as an important strategy for reducing workplace hazards, preventing equipment-related accidents, and creating safer working environments that enhance employee productivity.
5. The Kenya Association of Hotelkeepers and Caterers (KAHC) should collaborate with hotel operators to strengthen professional capacity in preventive maintenance through continuous training, knowledge-sharing forums, and dissemination of best maintenance practices. Promoting modern maintenance approaches, including digital maintenance management technologies, would improve asset reliability, employee efficiency, and the overall competitiveness of Kenya's hospitality industry.
6. Future studies should examine the mediating role of employee job satisfaction, employee engagement, or workplace safety, as well as the moderating influence of organizational

culture, leadership support, or technology adoption, in the relationship between preventive maintenance and employee job performance.

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