



The moderating role of training in linen management and guest satisfaction in star-rated hotels in Ghana

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Abstract

Staff training in linen management provides knowledge, skills, and attitudinal changes that improve service delivery. This study examined how this training influences the relationship between linen management and guest satisfaction in star-rated hotels in the Upper East Region of Ghana. A quantitative approach using a descriptive cross-sectional survey design was employed. Data were collected via questionnaires from 52 hotel employees selected through purposive sampling and 327 guests selected through convenience sampling. Descriptive statistics and hierarchical multiple regression were used for data analysis. The results showed that training enhances linen management by ensuring adequate, clean, high-quality linen through proper laundering practices, thereby increasing guest satisfaction. A significant moderating effect of training on the relationship between linen management and guest satisfaction was found. This implies that hotels should strengthen linen management training to achieve better outcomes. The study recommends that hotels plan training programmes in procedures for handling linen. The Ghana Tourism Authority should also establish and enforce mandatory training policies, supported by resources and certification, to enhance linen management practices and guest satisfaction.

Keywords: *hotel management, training and development, service quality, hotel performance, hospitality industry*

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1. Introduction

The hospitality industry encompasses accommodations, food and beverage, recreation, and tourism services, that make a substantial contribution to the global economy through employment generation, foreign exchange earnings, and the preservation of culture, crafts, and art (Harwood et al., 2022). Globally, the sector contributes more than 10.4% of Gross Domestic Product (GDP), while in Ghana it ranks as the third-largest contributor to national GDP (Cowling, 2024; Ministry of Tourism, Arts and Culture, 2023). Within this sector, hotels play a critical role in satisfying guests' accommodation needs and making consistent service quality essential for organizational survival and competitiveness (Asgeirsson et al., 2024; Prabhu et al., 2020). Hotels are therefore expected to understand and respond to guests' perceptions and evolving expectations, particularly regarding housekeeping services such as room amenities, décor, cleanliness, laundry services, orderliness, and aesthetic arrangements, all of which significantly influence guest satisfaction, safety, and hotel reputation (Olawuyi & Kleynhans, 2025; Singh et al., 2022).

Guest expectations have increased considerably due to the influence of online reviews, social media, and intensified competition within the hotel industry, which requires hotels to balance customer expectations with operational capabilities (Olawuyi & Kleynhans, 2025). This challenge is equally relevant in the Upper East Region of Ghana, which comprises one four-star hotel, five two-star hotels, and eighteen one-star hotels (Tabelessy et al., 2023; Ghana Tourism Authority Hotel Directory, 2022). However, efforts to meet these expectations are often constrained by service quality challenges. Studies have identified operational inefficiencies, housekeeping workload pressures, cleanliness concerns in the post-COVID-19 era, inadequate infrastructure, inconsistent service quality, limited managerial capacity, and insufficient staff training as key obstacles affecting guest satisfaction (Olawuyi & Kleynhans, 2025; Tokuu & Fagbemi, 2025). Furthermore, ineffective inventory management of linen, toiletries, and cleaning supplies can lead to delays, inefficiencies, and guest dissatisfaction (Olawuyi & Kleynhans, 2025).

A critical component of housekeeping operations is linen management, which involves all launderable textiles, including bed linen, bath linen, table linen, curtains, guest clothing, staff uniforms, and cleaning cloths (Neni et al., 2020). High-quality linen is essential for meeting guest expectations, enhancing perceived value, encouraging repeat visits, and generating positive reviews that attract new customers (Tabelessy et al., 2023; Chen et al.,

2022). Effective hotel linen should possess characteristics such as durability, absorbency, comfort, colorfastness, proper laundering, resistance to shrinkage, flame retardancy, thermal insulation, cleanliness, freshness, and aesthetic appeal (Rohaeni et al., 2021). The major components of linen management include planning and procurement, collection and sorting, laundering and finishing, storage and distribution, inventory and loss control, and quality assurance aimed at enhancing guest experiences (Rohaeni et al., 2021; Mahardika et al., 2020).

Despite its importance, linen management remains a source of guest complaints, particularly regarding stained, discolored, unhygienic, torn, or poorly maintained linen, delayed replacement, and inadequate housekeeping standards (Giovanni et al., 2022; Mahardika et al., 2020). Such issues may result from shortened washing cycles, insufficient linen inventory, overuse of available linen, or inadequate staff competence in handling linen processes (Mahardika et al., 2020). Consequently, staff training has been identified as a potential intervention to improve linen management and maintain optimal inventory levels (Waqanamaravu & Arasanmi, 2020).

Training equips employees with the knowledge, skills, and competencies needed to improve performance and productivity (Modi, 2024; Arwab et al., 2023; Pantaruk et al., 2025; Waqanamaravu & Arasanmi, 2020). Within the hotel industry, training enables employees to address emerging operational challenges, reduce linen misuse, improve service quality, and strengthen organizational competitiveness (Nzimakwe & Utete, 2024). Nevertheless, gaps remain in the implementation of staff training policies and periodic inspections within Ghana's hospitality sector, including training specifically related to linen management (Tokuu & Fagbemi, 2025). Training in key linen management functions can enhance employee competence, consistency, responsiveness, professionalism, and overall service quality, ultimately improving guest experiences and perceptions of hotels (Appiah-Kubi, 2022; Gupta, 2021).

The importance of training is particularly evident in Ghana, where improved hotel service quality can contribute to increased tourism revenue and economic growth (Cowling, 2024). This is especially relevant in the Upper East Region, which is endowed with several tourist attractions and strategically connected to neighboring Burkina Faso and Togo through the N2, N10, and N11 national roads (Ghana Statistical Service [GSS], 2021). Despite extensive research on service quality and guest satisfaction, limited studies have examined the role of linen management as an operational determinant of guest satisfaction, particularly the

moderating effect of staff training within the hospitality sector in developing countries such as Ghana.

2. Literature Review

2.1. Theoretical Framework

This study is anchored in Human Capital Theory (Becker, 1994), supported by the Service Quality Theory (SERVQUAL) (Parasuraman et al., 1985) and the Resource-Based View (RBV) (Barney, 1991). Contemporary hospitality frameworks further emphasize the importance of internal resources and service system design in enhancing service delivery and organizational performance (Ivanov & Webster, 2020).

Human Capital Theory posits that employee training enhances knowledge, skills, and productivity, enabling staff to perform operational tasks more effectively (Becker, 1994). In hotel housekeeping operations, training equips employees with competencies in linen laundering, handling, storage, distribution, and maintenance, thereby promoting efficient and consistent linen management practices that contribute to positive guest experiences. Complementing this perspective, the SERVQUAL model explains that customer satisfaction is influenced by the gap between expected and perceived service quality (Parasuraman et al., 1985). Linen management directly affects key service quality dimensions, particularly tangibles, reliability, and assurance, as clean, well-maintained, and hygienic linen enhances guests' perceptions of hotel quality and comfort.

The Resource-Based View further argues that organizational performance depends on the effective management of valuable internal resources and capabilities (Barney, 1991). Within the hospitality industry, linen represents a critical operational resource that supports housekeeping efficiency, hygiene standards, and overall service delivery. When managed effectively, it contributes to service excellence and competitive advantage.

These theories provide a comprehensive foundation for explaining the relationship between linen management and guest satisfaction. Human Capital Theory supports the moderating role of training by emphasizing the importance of employee competence in implementing linen management practices effectively. SERVQUAL explains how linen quality influences guest satisfaction through service quality perceptions, while RBV highlights linen as a strategic operational resource. Consequently, training is expected to strengthen the positive relationship between linen management and guest satisfaction by enhancing

employees' ability to maintain high linen standards that improve guest comfort and service experiences.

2.2. The Role of Training in Hospitality Industry

Housekeeping operations are a fundamental component of service delivery in the hospitality industry because they directly influence guests' perceptions of cleanliness, comfort, and overall service quality. Research consistently demonstrates that the quality of housekeeping services plays a significant role in shaping customer satisfaction and behavioral intentions (Ahmad, 2024; Wulan, 2025; Tran et al., 2025). Singh et al. (2022) found that elements such as room cleanliness, amenities, décor, and stylistic arrangement positively influenced guests' lodging experiences and resulted in higher customer satisfaction and repeat patronage. Similarly, Uma et al. (2025) reported that attention to detail, room cleanliness, housekeepers' professionalism, perceived service quality, room amenities, and housekeeping timeliness significantly enhanced customer satisfaction and revisit intentions, with customer satisfaction serving as an important mediating mechanism. Notably, perceived service quality and housekeeping timeliness emerged as particularly strong determinants of satisfaction.

While the contribution of housekeeping services to guest satisfaction is well established, maintaining high housekeeping standards depends heavily on the competence and preparedness of employees (Hidajat & Mansur, 2024; Wilson, 2025). Consequently, staff training has been widely recognized as a critical mechanism for improving service delivery and operational effectiveness in hospitality organizations. Through a systematic review of hospitality studies published between 2015 and 2025, Lavanya et al. (2026) concluded that well-designed and context-specific training programs are essential for improving employee performance, satisfaction, retention, and long-term organizational sustainability. Consistent with this view, Vardan (2024) found that training enhances employees' ability to manage customer complaints, increases confidence and motivation, and promotes consistent service quality. Qi (2023) further emphasized that continuous retraining is necessary to sustain service excellence in a dynamic hospitality environment.

The benefits of training extend beyond service quality outcomes to broader organizational and employee-related performance indicators. Aman-Ullah et al. (2022) demonstrated that human capital capacity, knowledge, and skills are positively associated with organizational performance. Innovative leadership strengthens the relationship between

employee knowledge and organizational performance. Similarly, Njeru et al. (2025) found that training programs significantly improved employee engagement among hotel workers, while leadership style positively moderated the relationship between training and engagement. The effectiveness of training may depend on organizational and contextual factors, however, training can function not only as a direct predictor of outcomes but also as a moderating influence that enhances the effectiveness of workplace practices.

Empirical evidence indicates that effective housekeeping services contribute significantly to customer satisfaction and revisit intentions, while staff training enhances employee performance, service quality, organizational performance, and engagement (Singh et al., 2022; Aman-Ullah et al., 2022; Qi, 2023; Vardan, 2024; Uma et al., 2025; Njeru et al., 2025; Lavanya et al., 2026). However, existing studies have primarily examined housekeeping quality at a general level and have paid limited attention to specific linen management practices, including laundering, storage, distribution, and replacement. Furthermore, although training has been shown to strengthen employee and organizational outcomes, little empirical evidence exists regarding its moderating role in the relationship between linen management and guest satisfaction. This gap is particularly evident within developing-country contexts such as Ghana, where research on operational housekeeping practices remains limited. Therefore, this study seeks to address this gap by examining the moderating role of staff training in the relationship between linen management practices and guest satisfaction in hotels in the Upper East Region of Ghana.

3. Methodology

3.1. Research Design

The study adopted a descriptive cross-sectional survey design, employing both quantitative and qualitative approaches to examine relationships among the variables. This design was selected because it enabled the collection of data from a wide range of participants, including hotel employees and guests, within a single period. It also captures participants' views and experiences as they existed at the time of the study, without any form of manipulation. The theory, Resource-Based View, guided the design, which emphasises examining how internal organisational resources, such as linen management practices, influence performance outcomes at a specific point in time.

Although the cross-sectional design has some limitations, such as its inability to establish cause-and-effect relationships and provide information on changes over time, it is a time-efficient and cost-effective approach. Data collection using this design was fast and less expensive. The design was useful for descriptive research and can inform further studies. The quantitative approach enabled the application of statistical procedures to datasets to identify patterns, trends, and relationships (Ofem, 2022).

3.2. Research Area

The study was carried out in Ghana's Upper East Region, located in the northeastern corner of the country. It serves as a traditional crossroads for the trans-Saharan trade. To the north and east, it borders the republics of Burkina Faso and Togo, respectively. Its southern boundary is with the Northern Region, while the Upper West Region lies to the west (Ghana Statistical Service [GSS], 2021). The Upper East Region is recognised as a popular tourist spot because of its natural resources. Its artistic beauty draws visitors from both within and outside Ghana.

In addition, the region has three national roads (N2, N10, and N11) that connect Ghana to neighboring countries, Togo and Burkina Faso. The N2 highway runs from Accra to Kulungugu; the N10 starts in the Central Region, passes through the Ashanti Region, and ends in Paga; and the N11 links these roads (N2 and N10) to Bolgatanga and Bimpiela, all in the Upper East Region. In addition to the region's tourist attractions, which increase demand for hotel accommodations and boost the hospitality industry, travelers using these international roads often stop to seek lodging. This has led to the development of numerous hotels and guesthouses for both locals and foreign visitors. Providing resting places requires linen such as bed and bath linen (Ghana Statistical Service, 2021).

3.3. Participants of the Study

The study's target population comprised hotel staff and guests of selected hotels in the Upper East Region of Ghana. Purposive sampling was employed to select 52 staff out of the 72. This was because the study required participants with direct responsibility and knowledge of linen management practices. General managers, accommodation supervisors, and laundry supervisors were selected as key informants due to their supervisory and operational roles. Convenience sampling was used to select 385 hotel guests from 1100 based on the selected

hotel's average weekly occupancy rates and document analysis. The technique was employed because the guest population was transient, and obtaining a complete sampling frame was difficult. Guests who were available and willing to participate were recruited during the data collection. Though the non-probability sampling techniques used may limit the generalisability of the findings, they were appropriate for obtaining relevant and accessible participants within the context of the study.

The distribution of the 52 employees across star categories for the study was as follows: three from four-star, 15 from two-star, and 34 from one-star, as shown in Table 1.

Table 1

Sample size of hotel employees

Employee	Hotel Rating (Star-rating)			Total
	1	2	4	
Manager	18(34.6)	5(9.6)	1(1.9)	24(46.2)
Accommodation Supervisor	16(30.8)	5(9.6)	1(1.9)	22(42.3)
Laundry Supervisor	-	5(9.6)	1(1.9)	6(11.5)
Total	34	15	3	52(100)

The sampling of the hotel guests was calculated using Cochran's (1963, as cited in Ahmed, 2024) formula for sample size determination. Based on the estimated sample size, the actual number of guests obtained for the study was 327, which was used to analyse the moderating effect of training in linen management on guest satisfaction.

Table 2

Socio-demographic characteristics (n=52)

Characteristics	Category	Frequency	Percentage
Gender	Male	52	100
	Female	0	0
Academic Qualification	Basic	4	7.6
	Secondary	14	27.0
	Diploma	15	28.8
	Degree	14	27.0
	Masters	5	9.6
Position of Hotel Employees	Managers	24	46.2
	Accommodation supervisors	22	42.3
	Laundry supervisors	6	11.5
Years of Experience in the position	1-5 years	21	40.4
	6-10 years	20	38.5
	11=15 years	8	15.4
	16-20 years	3	5.8

Source: Fieldwork

Table 2 shows that all 52 (100%) hotel employees were males. Although women in hospitality, especially in managerial positions, have tried to bridge the gender gap, traditional male dominance still influences the industry (Casado-Díaz et al., 2022; Pumpuni, 2022). The academic qualifications of hotel employee participants ranged from basic to master's degrees. All qualification levels were found in one-star hotels; however, those with only basic education were decreased in higher-rated hotels. Higher hotel ratings are linked to greater human resource capacity (Sarkodie et al., 2023), which, in turn, improves service delivery. Of the three distinct positions identified (general managers, accommodation supervisors, and laundry supervisors), hotels with four and two stars had designated leaders occupying these roles. In contrast, the one-star hotel had these positions doubling, possibly due to potential cost benefits. Approximately 80% of the employee participants had served in their respective positions for years. This implies that staff managing the hotels had acquired experience in linen management (Sarkodie et al., 2023).

3.4. Instrumentation and Data Gathering Process

To ensure the validity and reliability of the measurement instrument, questionnaire items were developed from existing literature and aligned with the study constructs. The instrument was reviewed by hospitality and research experts to establish content validity. A pre-test was subsequently conducted to improve the clarity and relevance of the questionnaire items. Two-star-rated hotels in the Upper East Region were randomly selected from the one- and two-star hotel categories because they shared characteristics similar to those of the participants in the main study. The pre-test involved 20 participants, with two general managers, two accommodation supervisors, two laundry supervisors, and guests from two hotels (seven guests from each hotel). Reliability was assessed using Cronbach's alpha, and all study variables recorded values above the acceptable threshold of 0.70, with satisfactory internal consistency (Ahmed, 2024). To avoid potential bias, the pre-tested institutions and participants were excluded from the final study.

The study employed a structured questionnaire as the primary data collection instrument. Section A captured participants' socio-demographic characteristics, including gender, hotel position, years of experience in the role, and academic level. Section B consisted of six items designed to assess the impact of training in linen management on customer

satisfaction. Responses were measured using a five-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5).

Prior to data collection, permission was obtained from the Ghana Tourism Authority (GTA), and all participants who agreed to participate completed informed consent forms. Data were collected over a three-month period, from July to September 2022 to allow sufficient time for questionnaire distribution and retrieval across four phases. The questionnaires were administered by the researcher with the assistance of a trained graduate student from the Department of Hospitality Management at Bolgatanga Technical University. The research assistant was selected due to her knowledge of the hospitality industry and familiarity with the study area. Given the geographical dispersion of the hotels across several districts and the need to accommodate guests' availability, data collection required extensive travel and flexible scheduling. The research assistant was introduced to the hotel general managers and was responsible for retrieving questionnaires deposited at the front desks, which facilitated efficient data collection throughout the study period.

3.5. Data Analysis

Data were analyzed using the Statistical Package for Social Sciences (SPSS) version 26, which provided robust data management and analytical capabilities. Both descriptive and inferential statistical techniques were employed. Descriptive statistics, including means and standard deviations, were used to summarize the study variables, while regression analysis was conducted to examine the relationships among the variables.

The study was grounded in the RBV, which posits that effective internal operational resources contribute to service quality and competitive advantage. Accordingly, linen management served as the independent variable, while customer satisfaction was the dependent variable, measured using dimensions adapted from the SERVQUAL model, namely reliability, responsiveness, and tangibility. To examine the moderating effect of training on the relationship between linen management and customer satisfaction, hierarchical multiple regression analysis was employed. Consistent with the RBV and Human Capital Theory, the analysis assessed whether organizational support in the form of staff training strengthened the influence of linen management practices on guest satisfaction.

In the first step, the main predictor variables relating to linen management were entered into the regression model. In the second step, an interaction term (Linen Management ×

Training) was introduced to test the moderating effect of training. To minimize multicollinearity, all predictor variables were mean-centered before the interaction term was created (Cheung & Aguiar, 2025). A moderating effect was considered present when the interaction term was statistically significant at $p < .05$. Drawing on Human Capital Theory, staff training is expected to enhance guest satisfaction through improved employee competence and service delivery, while the RBV suggests that organizational support can strengthen the effectiveness of linen management practices in achieving superior customer outcomes.

3.6. Research Ethics

Ethical considerations were strictly observed throughout the study to ensure informed consent, voluntary participation, confidentiality, and anonymity. Prior to data collection, all participants were provided with a consent form attached to the research instrument. The consent form clearly explained the purpose of the study and outlined the roles and expectations of participants. Participants were informed that their participation was entirely voluntary and that they could withdraw from the study at any stage without penalty. Only those who provided informed consent by signing the consent form were included in the study.

To protect participants' privacy, confidentiality and anonymity were maintained throughout the research process. No names or personal identifiers were collected or recorded, and all information provided by participants was treated with strict confidence. Furthermore, the data collected were securely stored and used solely for academic and research purposes.

4. Results and Discussion

Table 3 shows a relatively low mean score regarding whether the majority of employees possessed the required knowledge and skills in linen management acquired from a recognised hospitality training institution ($M = 2.52$, $SD = 1.28$). The low mean suggests that participants generally disagreed that most employees had received formal hospitality training in linen management. The relatively high standard deviation further indicates considerable variation in participants' perceptions across the hotels surveyed. This may imply that some employees perform linen management duties without formal training from recognised hospitality institutions or that hotels rely on on-the-job training to develop the required competencies. The result also raises concerns about the availability and retention of formally trained personnel within the hotel sector. Furthermore, the finding appears

inconsistent with the requirements of the 1979 Legislative Instrument (LI 1205), which stipulates that at least 50 per cent of hotel employees should possess literacy and training from a recognised hospitality institution.

Table 3

Training programmes and their effect on guest satisfaction

Statement	Mean	SD
The majority of hotel employees have the needed knowledge and skills in linen management from a recognised hospitality training institute.	2.52	1.28
Hotel employees in housekeeping go through on-the-job training on linen management from time to time.	3.88	1.18
On-the-job training has equipped laundry employees with effective skills in the use of tools/equipment for the highest standard of linen.	4.06	0.94
On-the-job training of employees in handling linen has reduced guest complaints.	4.31	0.61
On-the-job training has changed employees' attitudes toward the misuse of linen, against what is not intended for them.	4.02	0.96
The training enabled me to handle linen to the satisfaction of the guests.	3.81	1.16

The findings recorded that hotels generally provide on-the-job training in linen management to housekeeping employees ($M = 3.88$, $SD = 1.18$). This suggests that hotels recognize the importance of equipping employees with the knowledge and skills required for effective linen management. The result supports the argument of Aman-Ullah et al. (2022) that investments in human capital enhance employees' knowledge, skills, and productive capabilities. Consistent with Human Capital Theory, such training serves as a mechanism for developing employee competencies that contribute to improved job performance.

The positive contribution of training is further reflected in its perceived impact on linen quality and service delivery ($M = 4.06$, $SD = 0.94$). Participants generally agreed that training enabled laundry employees to use tools and equipment more effectively. This finding aligns with Lavanya et al. (2026), who reported that employee training in the hospitality industry enhances skills, improves performance, and contributes to operational efficiency. From the perspective of the RBV, trained employees represent valuable organizational resources that strengthen service quality and competitive advantage.

Training also appears to contribute to service improvement through the reduction of guest complaints related to linen management ($M = 4.31$, $SD = 0.61$). The low standard deviation indicates a high level of agreement among participants regarding this outcome. This finding supports Qi (2023) that training and retraining enable employees to identify potential service failures and respond effectively to guest concerns. By enhancing employees' ability to perform their responsibilities competently, training promotes higher service standards and minimizes operational deficiencies that may negatively affect guest experiences.

In addition to improving technical competencies, training was perceived to positively influence employee attitudes and behaviors regarding linen handling ($M = 4.02$, $SD = 0.96$). Participants generally agreed that training helped employees adopt appropriate linen management practices and discouraged misuse of hotel linen. Training can shape employee behavior and improve the effectiveness of workplace practices (Lavanya et al., 2026). Human Capital Theory similarly suggests that training enhances not only employees' knowledge and skills but also their attitudes and commitment to proper work procedures.

The participants agreed that training in linen handling contributes to guest satisfaction ($M = 3.81$, $SD = 1.16$). The knowledge and skills acquired through training improve the quality of linen-related services and positively influence guests' perceptions of hotel service delivery. According to Vardan (2024), training enhances employee confidence and performance, thereby contributing to organizational success. The finding is also consistent with the SERVQUAL model, which posits that improvements in service reliability and tangibility enhance customer satisfaction. Training plays a critical role in strengthening linen management practices and improving service outcomes that contribute to guest satisfaction.

According to Cheung and Aguiar (2025), moderation occurs when a third variable influences the strength or direction of the relationship between an independent variable and a dependent variable. In this study, staff training was considered a moderator of linen management and guest satisfaction because training may strengthen or weaken the effect of linen management on guest satisfaction. Employees who receive adequate training are more likely to apply acquired skills in linen management to improve service quality and enhance guest satisfaction. Based on the conceptual explanation and supporting literature, the study hypothesized that staff training significantly moderates the relationship between linen management and guest satisfaction.

H₀: Training has no significant moderating effect on the relationship between linen management and guest satisfaction.

H₁: Training has a significant moderating effect on the relationship between linen management and guest satisfaction.

To test the hypothesis, a moderation analysis was conducted using a hierarchical multiple regression model. Before the analysis, the assumptions of regression, including normality, linearity, homoscedasticity, independence of errors, and multicollinearity, were assessed to ensure the suitability of the data. The results indicated that the assumptions were satisfactorily met. VIF values were below 10, and the Durbin–Watson statistic was within the acceptable range (Cheung & Aguiar, 2025; Gürbüz & Bayik, 2021). The results are presented in Table 4 to Table 8.

Table 4

Correlations of training and the independent variable

Correlations		Linen Quantity	Linen Quality	Linen Care Strategies	Training
Linen Quantity	Pearson Correlation	1	.357**	-.101	.106
	Sig. (2-tailed)		.009	.475	.455
	N	52	52	52	52
Linen Quality	Pearson Correlation	.357**	1	.014	-.058
	Sig. (2-tailed)	.009		.920	.684
	N	52	52	52	52
Linen Care Strategies	Pearson Correlation	-.101	.014	1	.074
	Sig. (2-tailed)	.475	.920		.602
	N	52	52	52	52
Training	Pearson Correlation	.106	-.058	.074	1
	Sig. (2-tailed)	.455	.684	.602	
	N	52	52	52	52

The correlation matrix in Table 4 shows that linen quantity, linen quality, and linen care strategies (independent variables) are positively correlated with training (moderating variable). The Pearson correlation coefficient indicates that linen care strategies have the highest correlation (.475), while linen quality and linen quantity are both .357. These data indicate the extent of training across the independent variables. It can be inferred that, although the links between the independent variables and training are moderate, any increase or decrease in training could affect the variables. Therefore, effective training could enhance the positive influence of housekeeping operations on guest satisfaction. Hotels with well-trained employees are more likely to deliver consistent linen management and housekeeping services

that meet guest expectations. Inadequate training, on the other hand, suggests reduced effectiveness of housekeeping operations in improving guest satisfaction. The moderate outcome for the care strategies variables indicates that training plays a role in linen management for guest satisfaction. Qi (2023) indicates that appropriate training and retraining generated knowledge and skills that motivated staff to promote consistency in service delivery and higher operational standards, guest satisfaction, and revenue.

Table 5

Effect of independent variables and moderating variables on dependent variables

		Linen Quantity	Linen Quality	Linen Care Strategies	Training	Customer satisfaction
Linen Quantity	Pearson Correlation	1	.075	.039	-.295**	.059
	Sig. (2-tailed)		.175	.477	.000	.286
	N	327	327	327	327	327
Linen Quality	Pearson Correlation	.075	1	.404**	-.071	.058
	Sig. (2-tailed)	.175		.000	.200	.297
	N	327	327	327	327	327
Linen Care Strategies	Pearson Correlation	.039	.404**	1	-.024	.083
	Sig. (2-tailed)	.477	.000		.659	.136
	N	327	327	327	327	327
Training	Pearson Correlation	-.295**	-.071	-.024	1	-.026
	Sig. (2-tailed)	.000	.200	.659		.646
	N	327	327	327	327	327
Customer satisfaction	Pearson Correlation	.059	.058	.083	-.026	1
	Sig. (2-tailed)	.286	.297	.136	.646	
	N	327	327	327	327	327

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 5 indicates the highest correlation between training and the independent variables (linen quantity, linen quality, linen care strategies) on customer satisfaction (dependent variable) originates from linen care strategies (.477), linen quantity and linen quality (.175) and customer satisfaction (.286). Therefore, any unit change in customer satisfaction is best explained by changes in employee training, with a *p*-value of 0.00. It means the observed correlation is positive and statistically significant and not due to chance. Therefore, employee training in linen management at the studied hotels affects guest satisfaction.

Companies must prioritise and adopt key strategies that can improve the quality of the products and services they offer. One such strategy could be staff capacity building through training and retraining in quality service, which aligns with Human Capital Theory; investment in employee training improves organisational performance. In the hotel industry, staff training enhances employees' technical and interpersonal skills for efficient housekeeping. Uma et al.

(2025) explain that the satisfaction rate considers the perceived quality of products and services in measuring overall customer satisfaction.

Table 6

Model summary results of the regression analysis output of the moderation

Model	R	R-Squared	Adjusted R-Squared	Std. Error of the Estimate
1	.576 ^a	.331	.321	.54776
2	-.580	.346	.314	0.32

Predictors: (Constant) Linen management

Predictors: Linen management, Interaction Effect

The summary in Table 6 shows two models. Model 1 had linen management as an independent variable, which correlates with customer satisfaction. Model 2 incorporated employee training as an additional independent variable, together with the interaction effect. From the model summary results, Model 1 explained 33.1 per cent of the variance in guest satisfaction ($R^2 = .331$). In Model 2, after the introduction of the moderating variable, the explained variance rose to 34.6 per cent ($R^2 = .346$). This represented a 1.5 per cent change in R squared, signifying that the moderator/interaction term contributed additional explanatory power to the model. This suggests that training as a moderator contributed slightly to improving the relationship between linen management and guest satisfaction. Therefore, training should be considered as an essential operational factor in hotel management.

Table 7

Multiple regression ANOVA of training moderating linen management and guest satisfaction

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	80.845	7	11.549	38.493	.002
Residual	95.712	319	.300		
Total	176.557	326			

Dependent Variable: Customer satisfaction

Predictors: (Constant), Linen management, Interaction Effect

The ANOVA results in Table 7 show that the hierarchical regression model was statistically significant ($F = 38.493$, $p = .002$). This indicates that the predictor variables jointly explained variations in customer satisfaction. The model summary had earlier shown that the variables explained 34.6 per cent of the variance in guest satisfaction.

Table 8*Multiple regression coefficients summary of training moderating linen management and customer satisfaction*

Model	Unstandardised Coefficients		Standardised Coefficients		
	B	Std. Error	Beta	T	Sig.
1(Constant)	.990	.264		3.748	.000
Linen Quantity	.028	.059	.022	.484	.629
Linen Quality	.003	.012	.011	.235	.815
Linen Care Strategies	.367	.027	.582	13.642	.001
Training	-.022	.034	-.038	-.642	.521
Customer satisfaction	-.135	.023	-.245	-5.812	.002

a. Dependent Variable: Customer Satisfaction

The multiple regression coefficients in Table 8 reveal that linen management significantly and positively influenced customer satisfaction ($\beta = .367, p = .001 < 0.05$) with linen care strategies, but an inverse direction with customer satisfaction ($\beta = -.135, p = .002 < 0.05$) with an interaction term of $-.245$ at a confidence level of 95%. These indicate that training moderated the relationship between linen management and guest satisfaction for the acceptance of the alternative hypothesis and the rejection of the null hypothesis. However, the negative interaction coefficient indicates that training weakened the positive relationship between linen management and guest satisfaction, although the moderating effect remained statistically significant. Therefore, linen management continued to ensure guests' satisfaction when the moderating role of training is considered. Consequently, if customer satisfaction is paramount in the 21st Century for an organization to achieve higher productivity and encourage repeat visits (Singh et al., 2022), then employee training plays a significant role (Akash, 2024; Vinesh, 2021).

5. Conclusion and Recommendation

The study examined the moderating role of training in linen management and guest satisfaction in star-rated hotels in the Upper East Region of Ghana. The findings showed that training significantly moderated the relationship between linen management and customer satisfaction in hotels. Therefore, hotel staff training is associated with and mediates how linen is managed to meet guest satisfaction.

The study recommends that hotels implement structured training programmes; focusing on linen handling procedures, as findings indicate training significantly enhances service quality and guest satisfaction. In addition, GTA, the regulatory authority for hotels,

should establish mandatory training policies across all areas, including housekeeping. As part of this regulatory framework, a minimum training standard, covering both on-the-job and off-the-job training, could be implemented. Hotels with outstanding performance could receive incentives such as certifications and public recognition through awards and publications. Furthermore, the government of Ghana, through GTA, could support hotels with training resources such as workshops, online courses, and mentorship programmes. Moreover, hotels could collaborate with industry partners, such as educational institutions, to develop and promote staff training programs. Improving hotel performance through training is expected to enhance customer satisfaction and encourage repeat visits, ultimately increasing government revenue through taxes.

6. Limitations and Further Research

Like any other research, this study has limitations. It was conducted in only one of Ghana's sixteen regions, focusing exclusively on star-rated hotels in the Upper East Region. Therefore, the findings are limited to this specific geographical area and some selected hotels. The varied hotel sizes, linen management practices, and customer expectations in other regions could produce different outcomes. Hence, when applying the findings to all hotels in Ghana or hospitality settings, caution should be exercised. Despite this limitation, the study provides insight into housekeeping operations (linen management), service quality, and customer satisfaction in a similar hotel context.

The use of purposive and convenience sampling may have introduced sampling bias because participants were selected based on accessibility and the study's relevance rather than through random selection. This could affect the representativeness of the findings, although the methods helped obtain relevant information from knowledgeable participants. The study adopted a cross-sectional research design, where data were collected at a single point in time. This limits the study's ability to establish causal relationships between variables and to observe changes over time. Consequently, the findings reflected the situation during the time of data collection. Nonetheless, the design helped to paint a picture of the relationship between linen management, staff training, and guest satisfaction.

The study relied heavily on self-reported data collected through questionnaires, which may have resulted in response bias. Some participants may have provided some socially desirable answers rather than being honest, which could affect the accuracy of derived

responses. To minimise this challenge, participants were encouraged to provide honest responses as they were assured of confidentiality and anonymity.

Despite these limitations, the study provides meaningful insights into the relationship between linen management practices, staff training, and customer satisfaction and offers a foundation for future research in the hospitality industry. Future studies may replicate the study in different regions and hotel settings to enhance the validity and generalisability of the findings.

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Institutional Review Board Statement

Ethical considerations were strictly observed throughout the study through informed consent, voluntary participation, confidentiality, and anonymity.

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References

- Ahmad, A. B. (2024). Factors influencing housekeeping services and practices on customer satisfaction. *International Journal of Academic Research in Business and Social Sciences*, 14(9), 2543–2554. <https://doi.org/10.6007/IJARBSS/v14-i9/22235>
- Ahmed, S. K. (2024). How to choose a sampling technique and determine sample size for research: A simplified guide for researchers. *Oral Oncology Reports*, 12, Article 100662. <https://doi.org/10.1016/j.oor.2024.100662>
- Aman-Ullah, A., Mehmood, W., Amin, S., & Abbas, Y. A. (2022). Human capital and organizational performance: A moderation study through innovative leadership. *Journal of Innovation & Knowledge*, 7(4), Article 100261. <https://doi.org/10.1016/j.jik.2022.100261>

- Appiah-Kubi, S. (2022). Employee training on quality of service in the hotel industry in Ghana: A case study of selected hotels in the Greater Accra Region of Ghana. *International Journal of Scientific Research in Multidisciplinary Studies*, 8(2), 47–52.
- Arwab, M., Adil, M., Nasir, M., & Ali, M. A. (2023). Task performance and training of employees: The mediating role of employee engagement in the tourism and hospitality industry. *European Journal of Training and Development*, 47(9), 900–920. <https://doi.org/10.1108/EJTD-01-2022-0008>
- Asgeirsson, M., Gudlaugsson, T., & Jóhannesson, G. (2024). The relationships between service quality, reputation, and performance in hospitality. *Tourism and Hospitality*, 5, 736–752. <https://doi.org/10.3390/tourhosp5030043>
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120. <https://doi.org/10.1177/014920639101700108>
- Becker, G. S. (1994). *Human capital: A theoretical and empirical analysis, with special reference to education* (3rd ed.). University of Chicago Press.
- Casado-Díaz, J. M., Driha, O., & Simón, H. (2022). The gender wage gap in hospitality: New evidence from Spain. *Cornell Hospitality Quarterly*, 63(3), 399–417. <https://doi.org/10.1177/1938965520971273>
- Chen, W., Dong, B., Hsieh, C. W., & Lee, M. J. (2022). A replication of an experimental test of the expectancy-disconfirmation theory of citizen satisfaction. *Public Administration*, 100(3), 778–791. <https://doi.org/10.1111/padm.12754>
- Cheung, S. F., & Aguiar, M. (2025). Doing, reporting, and interpreting moderation right: Recommendations for selected common practices. *Journal of Pacific Rim Psychology*, 19, 1–14. <https://doi.org/10.1177/18344909251374823>
- Cowling, N. (2024). *GDP growth rate from hotel and food services in Kenya, 2019–2023*. Statista. <https://www.statista.com/statistics/1283496/quarterly-gdp-growth-rate-from-accommodation-and-food-services-in-kenya/>
- Ghana Statistical Service. (2021). *2021 population and housing census: Preliminary report*. Ghana Statistical Service.
- Ghana Tourism Authority. (2022). *Hotel directory*. <http://www.ghana.travel>
- Giovanni, N. T., Alessandro, G. A., & Napolitano, F. P. (2022). The role of housekeeping department towards guest satisfaction in Isola Sacra Hotel, Italy. *Journal of Hospitality and Tourism Management*, 5(2), 1–10. <https://doi.org/10.53819/81018102t5133>
- Gupta, V. (2021). Reviving the Indian hospitality industry after the COVID-19 pandemic: The role of innovation in training. *Worldwide Hospitality and Tourism Themes*, 13(5), 599–609. <https://doi.org/10.1108/WHATT-05-2021-0065>
- Gürbüz, S., & Bayik, M. E. (2021). A new approach for mediation analysis: Is Baron and Kenny's method still valid? *Türk Psikoloji Dergisi*, 36(88), 15–19.
- Harwood, A. B., Scott, W. E., & Reisman, M. S. (2022). Role of hospitality industry on economic growth in USA. *African Journal of Emerging Issues*, 4(8), 1–13.
- Hidajat, B. W., & Mansur, A. (2024). Enhancing housekeeping workforce competency in the hospitality industry: A comprehensive training approach. *International Journal of Integrative Sciences*, 3(8), 859–870. <https://doi.org/10.55927/ijis.v3i8.10595>
- Ivanov, S., & Webster, C. (2020). Robots in tourism: A research agenda for tourism economics. *Tourism Economics*, 26(7), 1065–1085. <https://doi.org/10.1177/1354816619879583>
- Lavanya, C., & Abhinav, M. (2026). Impact of training and development on employee performance and satisfaction in the hospitality industry: A systematic review. *International Journal for Multidisciplinary Research*, 8(1), 1–13.

- Mahardika, M., Heryanda, K., & Parma, P. (2020). Housekeeping performance and guest satisfaction in the hospitality industry. In *Proceedings of the 5th International Conference on Tourism, Economics, Accounting, Management and Social Science (TEAMS 2020)*. *Advances in Economics, Business and Management Research*, 158, 127–136.
- Ministry of Tourism, Arts and Culture. (2023). *Strategic overview of the Ministry of Tourism, Arts and Culture*. https://mofep.gov.gh/sites/default/files/pbb-estimates/2024/2024-PBB-MTAC_.pdf
- Modi, N. (2024). Knowledge, skills, and attitudes: Competencies for sustainable tourism. In A. Sharma (Ed.), *International handbook of skill, education, learning, and research development in tourism and hospitality* (Springer International Handbooks of Education). Springer. https://doi.org/10.1007/978-981-99-3895-7_48-1
- Neni, R., Shofa, F. Y., Yoyoh, J., & Moni, S. (2020). The analysis of hotel linen cleaning standard in housekeeping department. In *Advances in Social Science, Education and Humanities Research* (Vol. 520, pp. 263–271).
- Njeru, M. W., Kiage, O., & Koome, G. (2025). Moderating effect of leadership style on the relationship between training and employee engagement among 3–4 star-rated hotels in Kisumu County. *Journal of Frontiers in Humanities and Social Sciences*, 3(2), 119–135. <https://doi.org/10.69897/jofhscs.v3i2.260>
- Nzimakwe, T. I., & Utete, R. (2024). Staff training and employee performance: Perspectives of the workplace. *International Journal of Business Ecosystem & Strategy*, 6(1), 80–86.
- Ofem, E. (2022). *Quantitative data analysis: A comprehensive guide*. Hevo Data. <https://hevodata.com/learn/quantitative-data-analysis/>
- Olawuyi, O. S., & Kleyhans, C. (2025). A bibliometric analysis of service quality in the hospitality industry (2014–2024). *Administrative Sciences*, 15(6), Article 215. <https://doi.org/10.3390/admsci15060215>
- Pantaruk, S., Khuadthong, B., Imjai, N., & Aujirapongpan, S. (2025). Fostering future-ready professionals: The impact of soft skills and internships on hospitality employability in Thailand. *Social Sciences & Humanities Open*, 11, Article 101371. <https://doi.org/10.1016/j.ssaho.2025.101371>
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49(4), 41–50. <https://doi.org/10.1177/002224298504900403>
- Prabhu, M., Nambirajan, T., & Abdullah, N. (2020). Operating competitive priorities of manufacturing firms: An analytical study. *Journal of Industrial Engineering and Management*, 13(1), 38–55. <https://doi.org/10.3926/jiem.2876>
- Pumpuni, C. M. (2022). The impact of service provided to persons with disabilities on customer perceptions of service quality in the hotel business: The influence of gender and educational status with or without disability. *International Journal of Hospitality and Tourism Studies*, 3(1), 1–9.
- Qi, Q. (2023). Evaluate the training system of Sheraton Zibo Hotel. In *SHS Web of Conferences* (Vol. 157, Article 02029, pp. 1–4). <https://doi.org/10.1051/shsconf/202315702029>
- Rohaeni, N., Yusuf, S. F., Jubaedah, Y., & Sunarsih, M. (2021). The analysis of hotel linen cleaning standard in housekeeping department. In *Proceedings of the 6th UPI International Conference on TVET 2020* (pp. 263–266). Atlantis Press. <https://doi.org/10.2991/assehr.k.210203.130>

- Sarkodie, N. A., Gyeduah, C., Kyei, P., & Gyimah, C. (2023). Examination of guests' choice for star-rated hotels in Ghana. *African Journal of Applied Research*, 9(2), 124–143.
- Singh, N. K., Sharma, H., & Mishra, R. (2022). A study on the impact of housekeeping service on customer satisfaction and repeat business in Crowne Plaza Hotel, Greater Noida. *Global Journal of Management and Business Research*, 22(F2), 5–7.
- Tabelessy, W., Sitaniapessy, R., & Lekatompessy, D. (2023). Establishing customer satisfaction to increase customer loyalty in Collin Beach Hotel. *Indonesian Journal of Contemporary Multidisciplinary Research*, 2(2), 165–176.
- Tokuu, E., & Fagbemi, E. O. (2025). Exploring guest expectations of guest houses service quality in the Sunyani Municipality. *International Journal of Hospitality & Tourism Management*, 9(2), 193–198. <https://doi.org/10.11648/j.ijhtm.20250902.21>
- Tran, D. T., Nguyen, K. T., Huynh, D. V., & Stangl, B. (2025). Satisfaction with response: The impact on potential customers' perceived service quality and intent to stay. *Annals of Tourism Research Empirical Insights*, 6(1), Article 100179. <https://doi.org/10.1016/j.annale.2025.100179>
- Uma, R., Nimish, G., Munish, K., Alpna, S., & Rashika, S. (2025). Exploring the impact of quality housekeeping services on customer satisfaction and revisit intentions: A study of luxury hotels in Uttar Pradesh. *International Review of Management and Marketing*, 15(6), 314–328. <https://doi.org/10.32479/irmm.20235>
- Vardan, V. (2024). Impact of employee training programs on service performance in restaurants. *Journal of Hospitality and Tourism*, 4(3), 10–20.
- Vinesh, D. N. (2021). Role of training and development in employee and organisational performance. *International Journal of Management and International Business Studies*, 4(2), 213–220.
- Waqanimaravu, M., & Arasanmi, C. N. (2020). Employee training and service quality in the hospitality industry. *Journal of Foodservice Business Research*, 23(3), 216–227. <https://doi.org/10.1080/15378020.2020.1724850>
- Wilson, O. (2025). Enhancing operational efficiency and guest satisfaction in hotel management: A strategic approach. *OTS Canadian Journal*, 4(5), 72–81. <https://doi.org/10.58840/ae2m7f34>
- Wulan, A. A. I. R. S. (2025). Customer satisfaction analysis to linen service quality by Laundry TX in South Kuta, Bali. In A. Hassan & P. D. S. Pitanatri (Eds.), *Handbook of tourism and hospitality marketing in Indonesia* (Reference Works in Business and Management). Springer. https://doi.org/10.1007/978-981-96-2567-3_29