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## **Challenges Faced in Linen Management and Effect on Guest Satisfaction in Selected Hotels in the Upper East Region of Ghana**

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# Challenges Faced in Linen Management and Effect on Guest Satisfaction in Selected Hotels in the Upper East Region of Ghana

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## Abstract

Hotels face various challenges in their operations, with linen loss being inevitable. This study investigated the challenges with linen management and its impact on guest satisfaction in selected hotels in the Upper East Region of Ghana. A cross-sectional survey research design was employed using quantitative and qualitative approaches. The sample comprised 52 hotel employees from 24 star-category hotels, including general managers, supervisors responsible for accommodation and laundry, and the president of the regional hotel association. Data were collected through questionnaires and semi-structured interviews. Descriptive statistics, including means and standard deviations, and multiple linear regression for inferential statistics, were used to test the hypothesis at a 5% significance level. The findings revealed that hotels face linen management challenges, including linen theft, unauthorized movement of linen within departments, and the use of linen for cleaning spills. Additionally, hotels lacked the technology to track linen movement. Hypothesis testing showed that challenges in linen management significantly affected guest satisfaction ( $R = 0.522$ ,  $R^2 = 0.272$ ,  $F = 3.441$ ,  $p = 0.010$ ), leading to the rejection of the hypothesis that linen management challenges have no significant effect on guest satisfaction ( $p = 0.010 < 0.05$ ). Approximately 27.2% of guest satisfaction variance could be attributed to the predictor variables in linen management challenges. The study recommended that hotel management intensify education for both staff and guests to reduce linen loss. Furthermore, each hotel could consider forming a committee to review linen management practices and address related challenges.

**Keywords:** *Linen Management Challenges, Customer Satisfaction, Selected Hotels, Upper East Region, Ghana.*

## **1.0 Background to the Study**

According to the United Nations World Tourism Organization (UNWTO, 2015), hotels are integral to the hospitality industry. As a service industry, they are established to serve guests with warmth and care. Zümrüt, Esra, Eda, and Okşan (2017) noted that hotels aim to provide comfort, an enabling environment, security, and privacy. Linen is essential to delivering these services. The Community IPC policy (2020) defines linen as any reusable textile item that requires cleaning or disinfection through laundering. Linen categories include bed linen, bath linen, table linen, kitchen linen, and miscellaneous linen. Bed linen encompasses bedsheets, pillowcases, duvets, duvet covers, blankets, and counterpanes. Bath linen includes bath towels, bathrobes, washcloths, hand towels, fingertip towels, face towels, bath mats, and rugs. Table linen comprises tablecloths, napkins, placemats, table runners, and coasters. Kitchen linen consists of pot holders, hot mats, and cleaning cloths, while miscellaneous linen includes items such as curtains, guest clothing, and staff uniforms (Braun Linen, 2019; Crown Linen, 2017).

Guests' experiences at hotels are significantly impacted by the quality of linen provided. Linen is expected to be of high quality—clean, fresh, neat, crisp, spotless, attractive, and comfortable (Ricci, 2015). Its texture should be smooth and free from itchiness or scratchiness upon contact with the skin. Linen should also show no signs of wear and tear, such as thinning, pilling, or loose threads (Braun Linen, 2019). Braun Linen emphasized that 97% of guests expect hotel linen to be impeccably clean. For linen to meet these expectations, maintaining adequate par levels and par stock is crucial, regardless of hotel type (Crown Linen, 2017). Periodic Automatic Replacement (PAR) refers to the amount of linen needed for a hotel's daily operations. Adequate par levels enhance guest experiences and overall satisfaction. However, hotels face challenges with linen loss in the hospitality industry. Linen loss refers to the discard or loss of linen products at the hotel before reaching the end of their useful life, accounting for about 15 to 20 percent of linen items (Ricci, 2015). Ricci highlighted that if a hotel maintains a par of four sheets and towels per room at an approximate cost of \$250, with an annual expenditure of \$1.25 billion, the cost of replacement linen due to loss could range between \$50 and \$70 per room, totaling \$2.5 million to \$3.5 million.

Linen loss can result from theft by guests or hotel staff, misuse by housekeepers or guests, or the inability to track linen across departments. Some hotels struggle to maintain adequate linen stocks, causing overuse and leading to increased wear and tear (Lares, 2023; Wilkins Linen Team, 2018; Ricci, 2015). The effects of linen loss include reduced housekeeping productivity and decreased service quality. Hotels must implement measures to minimize linen loss in linen management services. Linen quality forms a significant part of a guest's overall accommodation experience (Mahardika et al., 2020). While guests expect clean, comfortable, and aesthetically pleasing linen to enhance their hotel experience, challenges with linen loss can disrupt par levels. This raises operating costs and can negatively impact service quality. Poor service quality due to linen shortages may reduce the likelihood of return visits and deter positive word-of-mouth recommendations. Consequently, this study sought to investigate linen management challenges in star-category hotels in the Upper East Region of Ghana.

## **1.1 Objective of the Study**

- i. To identify challenges faced in the management of linen in star-rated hotels in the Upper East Region of Ghana
- ii. To evaluate the effect of linen care challenges on customer satisfaction in star-rated hotels in the Upper East Region of Ghana

## **2.0 Literature Review**

The theoretical and empirical literature of the study are presented in this section.

### **2.1 Theoretical Framework**

The Gap Model of Service Quality by Parasuraman, Zeithaml, and Berry in 1985 was the theory used for this study. The theory highlights differences between organizational intentions and delivery, customer expectations and perceptions, and knowledge, policy, delivery, communication, and perception gaps. To bridge these gaps, businesses must understand their needs, establish suitable service standards, ensure consistent delivery, manage customer communications, and accurately measure customer perceptions. Thus, enterprises can improve client satisfaction and quality of service by bridging these gaps. Evaluating the effect of linen care challenges on guest satisfaction calls for service delivery gap identification. Linen care challenges, like delays or insufficient maintenance, create gaps between guest expectations and actual service delivery. By employing the Gap Model, hotels can identify and address these discrepancies, guaranteeing that linen care meets guest expectations. Similarly, the approach aids hotels in enhancing service quality by focusing on areas where linen care practices fall short and ultimately improving guest satisfaction.

### **2.2 Challenges in Linen Management in Hotels and Guest Satisfaction**

There are two types of linen reduction: actual depletion and artificial reduction. Actual loss arises from deliberate theft, disposal, and linen misuse, while artificial loss can result from the inaccessibility of linen within the circulating inventory (Medi-tek, 2019). Ricci (2015) further classified these as explained and unexplained losses. Explained loss includes stains, wear, and tears, while unexplained loss typically involves theft, which can be committed by both guests and hotel employees. Lares (2023) reported that linen loss could cost a hotel over \$50,000 annually. Approximately 20% to 30% of a hotel's linen inventory may be lost due to theft, wear and tear, and insufficient control systems during the transportation of linen between laundry facilities and guest rooms. Ricci (2015) indicated that guests are responsible for around 20% of linen loss, often taking towels and pillowcases.

Both guests and employees contribute to linen misuse. Guests sometimes treat hotel towels and washcloths as disposables, using them to shine shoes or remove makeup. Hotel staff may also misuse linen, using washcloths for cleaning rooms and other tasks (Medi-tek, 2019; Wilkins Linen Team, 2018). Jeppesen (2015) highlighted that maintenance staff may use linen to clean grease, and piled linen on concrete floors can attract oils. In addition, improper handling, such as abrasion against metal chute linings, can lead to premature wear. Medi-tek noted that up to 75% of linen replacement costs are attributed to theft, misuse, and other unexplained losses, including accidental disposal in the trash. To reduce linen loss, Jeppesen (2015) and Ricci (2015) suggested providing cleaning supplies for housekeepers to prevent linen from being used as rags or dusters. They recommended placing dusters and paper towels in rooms for guests to use for tasks like shoe cleaning, which can otherwise damage linen through staining and reduce its lifespan. Educating both employees and guests is crucial. Regular training sessions can raise awareness about proper linen handling, designated rag programs, and regular maintenance of chutes to extend linen lifespan. Hotels might also consider consulting suppliers to evaluate other linen options and implementing reminders for guests to handle linen responsibly. Additionally, a policy outlining fines for linen loss could be posted in rooms.

Linen tracking is essential, regardless of whether the hotel operates its own laundry facility or uses a commercial service provider. Housekeeping should conduct regular inventories across all hotel locations, counting linen in stock daily to keep track of items in circulation (Wilkins Linen Team, 2018; Nayak et al., 2015). The study indicates the importance of recording the

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quantity of clean linen, items washed, those removed from service, par levels at full occupancy, and linen in circulation. Digital linen management can also offer real-time tracking solutions. Radio Frequency Identification (RFID) technology and cloud-based software can be used to identify and track linen items. RFID tags can reduce costs, simplify tracking, and eliminate billing discrepancies (Lares, 2023; Jeppesen, 2015). Jeppesen further noted that advanced washing equipment and new chemical formulations can reduce premature wear, extending the linen lifecycle by 20% to 30% and saving on replacement costs (Ricci, 2015). Proactive linen management through tracking, measuring, and systematically replacing textiles—can help hotels prevent crises.

Hotels might also establish a committee to regularly address linen loss and related issues. Maintaining adequate par levels can mitigate linen loss. For example, a par level of three or four ensures that, while one set of linen is in use, another is being laundered, with a backup set ready for emergencies (Crown Linen, 2017; Ricci, 2015). A study by Deepa et al. (2019) explored the challenges hotels face in inventory management in housekeeping departments in Pimpri Chinchwad-Pune, India. The challenges identified included pilferage, linen misuse, tracking systems, and time required for physical counting. Suggested solutions included proper record-keeping, the use of tracking systems, colour-coding linen, staff training, supervision, and surcharges for missing items. Skews (2015) researched enhancing efficiencies in laundry and hospitality services. This study focused on challenges faced by customers renting laundry from Company X and how these were addressed through technology. An internet-based survey revealed that 85% of respondents encountered service issues, prompting the implementation of automated tracking, including RFID technology. The study recommended using technology to monitor service quality and streamline laundry management.

### **3.0 Methodology**

The study was carried out in the Upper East Region of Ghana among star-rated hotels. The cross-sectional survey design was employed. Quantitative and qualitative approaches were used to explain relationships among variables. The estimated population of hotel staff from 24 star-rated hotels was 72, out of which a sample size of 52 (12 managers, 48 supervisors in housekeeping) was obtained through purposive sampling. The president of the hotel association was purposively selected. A structured questionnaire and interview guide were used to collect data from hotel staff and the association president. Verification processes were carried out to establish validity and reliability. The gathered data was analyzed using Statistical Package for the Social Sciences (SPSS) for descriptive and inferential statistics.

### **4.0 Results and Discussion**

Seventy-two copies of a questionnaire were distributed to general managers and supervisors in charge of accommodation and laundry. The response rate was 72.2%. The president of the hotel association availed himself for the study thereby recording a 100% return rate. The respondents were all males. This suggests males were in managerial and leadership positions which could be attained through long service and experience (Sarkodie et al., 2023).

#### **4.1 Linen Care Challenges and Guest Satisfaction**

To establish the identified challenges faced by hotels in linen management, means, and standard deviations were computed on a five-question item. The responses from the employee respondents are presented in Table 1.

**Table 1: Challenges Faced in Linen Management by the Hotels**

Statement (N=52)	Mean	Standard Deviation (SD)
Stealing of linen by employees	3.58	1.50
Stealing of linen by guests	3.81	1.56
Linen loss during movement of linen within and outside the hotel	3.42	1.56
No available technology to track linen movement within and outside the hotel	4.38	0.63
Linen is used to clean messes like vomit, shoes, lip-stick etc.	4.13	0.97

Employees recorded a mean of 3.58 (SD = 1.50) for linen theft, while a mean of 3.81 (SD = 1.56) was recorded for guest theft of linen. The standard deviations indicate that respondents' views were somewhat diverse. Linen loss due to theft is evident in the data, suggesting that the hotels studied faced challenges in this area. The lack of effective theft prevention mechanisms may contribute to this issue, as physical searches of bags and luggage could cause suspicion and embarrassment. It is possible that other methods, not known to the researcher, might have been employed to mitigate this problem. These findings align with Deepa et al. (2019), who identified pilferage as a significant challenge in hotel linen inventory management. Regarding linen loss during transportation, the recorded mean was 3.42 with a standard deviation of 1.56. This suggests that linen loss during movement between departments (e.g., accommodation and laundry) was a recognized issue. Physical counting of linen during stock-taking likely helped to identify any depletion as linen moved through various departments. These findings are consistent with Deepa et al. (2019), who found that taking time for physical linen counts can help address linen loss.

The statement "no technology to track the movement of linen" yielded a mean of 4.38 and a standard deviation of 0.63, indicating that respondents agreed on the lack of tracking technology for linen movement. Even the only four-star hotel in the study lacked such a mechanism, likely due to the costs and limited technological expertise typical in less developed regions, including the Upper East Region of Ghana. Skews (2015) suggests that Radio Frequency Identification (RFID) technology for tagging laundry items could enhance efficiency in the laundry and hospitality industries. In addition, the study found that linen misuse for cleaning messes posed a significant challenge, with a mean of 4.13 (SD = 0.97). Messes could involve using linen to clean shoes, cosmetics, furniture, vomit, and blood. The data suggest that both hotel employees and guests could be responsible for such misuse. These findings confirm that hotels experience both explained and unexplained linen depletion, with misuse and theft being the primary causes (Medi-tek, 2019; Deepa et al., 2019; Ricci, 2015; Jeppesen, 2015).

The president remarked during the interview on 11<sup>th</sup> August 2022:

*The hotels deal with human beings (hotel employees, guests). Linen is abused through misuse and theft which can come from employees or guests. For theft, it is more difficult*

to catch culprits. However, the mess comes out so obvious. Linen is used in cleaning shoes, furniture, vomit, lipstick, or blood. Linen can also be locked up at certain departments unnoticed (**President Hoteliers’ Association**), **Upper East Region, 2022**.

**4.2 Testing the Null Hypothesis Using Regression Model**

A null hypothesis was formulated to test whether the identified challenges in linen management had any significant effect on guest satisfaction.

*H<sub>0</sub>: Challenges faced in the management of linen do not have any significant effect on guest satisfaction in star-rated hotels in the Upper East Region of Ghana.*

A multiple linear regression model was used to test if linen management challenges significantly predicted guest satisfaction (Table 2). The choice of the test aims to prove significantly whether challenges faced in linen management affected guest satisfaction. Five per cent significant level was used to test the null hypothesis.

**Table 2: Model Summary**

Model	R	R-Squared	Adjusted R-squared	Std. Error of the Estimate	Df	F	Sig.
1	0.522 <sup>a</sup>	0.272	0.193	0.69947	5	3.441	0.010

Predictors: (Constant), No technology is available to track the movement of linen from within and outside the hotel, stealing of linen is done by hotel employees, Linen is used to clean mess like vomit, shoes, lipstick, etc., Linen is lost during movement of linen within and outside the hotel, stealing of linen is done by hotel guests.

The summary from the multiple linear regression in Table 2 showed a statistically significant relationship in the regression model (R = 0.522, R<sup>2</sup> = 0.272, Adjusted R<sup>2</sup> = 0.193, F = 3.441, p = 0.010). It was found that challenges faced in linen management significantly predicted guest satisfaction (R<sup>2</sup> = 0.272, p = 0.010). The implication is that challenges faced in the management of linen affected guest satisfaction. The hypothesis which stated challenges faced in the management of linen do not have any significant effect on guest satisfaction was rejected at a 95% confidence level (p = 0.010 < 0.05). However, about 27.2% could be attributable to the predictor variables implying that there were other challenges the study did not capture. The findings confirmed the studies carried out by Deepa et al. (2019) and Jeppesen (2015), thus, linen pilferage, misuse of linen, lack of linen tracking system, and time for physical counting of linen among others were some identified challenges. Nevertheless, the best strategy is for hotels to be proactive in linen management; by tracking, measuring, and using systematic ways for hotel textiles replacement.

The multiple regression model on linen care challenges further outlined the summary of the ANOVA analysis. The ANOVA analysis is presented in Table 3.

**Table 3: ANOVA Results**

Indicator	Sum of Squares	Df	Mean square	F	Sig.
<b>Regression</b>	12.854	5	1.571	2.872	.008 <sup>b</sup>
<b>Residual</b>	30.127	46	.655		
<b>Total</b>	<b>42.981</b>	<b>51</b>			

a. Dependent variable: Guest Satisfaction

b. Predictors: (Constant), No technology is available to track the movement of linen from within and outside the hotel, stealing of linen is done by hotel employees, Linen is used to clean mess like vomit, shoes, lipstick etc., Linen is lost during movement of linen within and outside the hotel, stealing of linen is done by hotel guests. From the ANOVA Table, the multiple regression's F value was 2.872, with a significant level of .008 and a degree of freedom of 5. The findings suggest a significant effect on linen care challenges and guest satisfaction in the hotels under study.

The multiple linear regression analysis of linen care challenges bore a summary of coefficients. The coefficient summary is displayed in Table 4.

**Table 4: Multiple Regression Coefficients Summary**

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
1(Constant)	3.426	1.031		3.322	.002
Stealing of linen is done by hotel employees	-.175	.189	-.327	-.929	.358
Stealing of linen is done by hotel guests	.285	.193	.553	1.478	.046
Linen is used to clean messes like vomit, shoes, lipstick etc.	-.111	.135	-.133	-.818	.007
Linen is lost during the movement of linen within and outside the hotel	-.115	.094	-.224	-1.227	.002
No technology is available to track the movement of linen from within and outside the hotel	.224	.197	.175	1.134	.026



#### a. Dependent Variable: Customer Satisfaction

Table 3 suggests the coefficient ( $\beta$ ) values on the five items had variations in figures. Four out of the five were significant. These were stealing of linen by guests (.553), Linen used to clean the mess (-.133), (-.224) and no technology available to track linen movement (.175) based on the standardized coefficients. The significant values are ( $.046 = p < 0.05$ ), ( $.007 = p < 0.05$ ), ( $.002 = p < 0.05$ ) and ( $.026 = p < 0.05$ ) respectively at 95% confidence level.

The president lamented on challenges faced during the interview on 11th August 2022:

*Researcher! you can bear with me things are difficult. Hotels are struggling to survive. Hotel patronage is low, especially with COVID-19 coupled with harsh economic trends. Our taxes slashed by the government are so many. What is more worrying is the abuse of linen by some guests rendering them stained beyond use. Nonplacement could cause some hotels to operate with limited stock. Linen becomes overstrained through laundering which could affect guest satisfaction (President Hoteliers' Association), Upper East Region, 2022.*

## 5.0 Conclusions

The study identified that in the selected hotels for study in the Upper East Region of Ghana, linen was lost through stealing by both guests and staff; through the movement of linen within the department, linen was used to clean messes such as vomit, lipsticks, and blood. Similarly, there was no technology to track the movement of linen. Linen management challenges affected guest satisfaction. The effect of the linen management challenges on guest satisfaction was statistically significant. The hotel management should endeavor to be proactive in managing linen in their facilities to minimize challenges concerning linen management. To sustain and improve guest satisfaction, hotels should be intentional about incorporating state-of-the-art technology in their operations to minimize linen loss and abuse.

## 6.0 Recommendations

Gap Model of Service Quality identified that businesses should bridge gaps by establishing suitable standards and consistent delivery. Therefore, if linen loss is an identified challenge in hotel operations, hotel management should make frantic efforts to reduce linen loss to improve linen quality and customer satisfaction. Hotel employees and guests should be educated on the importance of linen and the cost involved in acquiring linen for the smooth running of the business. Provision should be made for cleaning products. Dusters, for instance, can be provided so that linen would not be abused. Good inventory control by keeping records and taking stock of linen should be consistent. Likewise, digital linen management through RFID technology can be used to track linen movement. Hotel management is encouraged to keep enough linen in their operations to prevent overstraining of linen and to check damages. Each hotel can set up a committee to review linen and its associated challenges. Policy charges for instance can be imposed to check the stealing of linen.

## References

- Braun Linen. (2019). *Hotel linen management and guest satisfaction*. Braun Linen Services.
- Community IPC policy. (2020). *Guidelines on textile and linen handling in hospitality*. Community Infection Prevention and Control.

- Crown Linen. (2017). *The importance of par levels in hotel linen management*. Crown Linen Services.
- Deepa, S., Sarika, K., & Honey, C. (2019). Challenges in inventory management in housekeeping departments of hotels. *Journal of Hospitality Management and Tourism*, 10(3), 84-94.
- Jeppesen, H. (2015). *Linen management in the hospitality industry: Challenges and solutions*. Hospitality Industry Publications.
- Lares, A. (2023). *Cost implications of linen loss in the hospitality industry*. Hotel Industry Insights.
- Mahardika, Y., Heryanda, A., & Parma, A. (2020). The impact of linen quality on guest satisfaction in hotels. *International Journal of Hospitality and Tourism Management*, 9(4), 234-240.
- Medi-tek. (2019). *Understanding linen loss in the hospitality sector*. Medi-tek Linen Management Solutions.
- Nayak, R., Singh, A., Padhye, R., & Wang, L. (2015). *Advances in digital linen management in the hospitality industry*. Textile Science Journal, 21(2), 121-130.
- Ricci, S. (2015). *Hotel linen inventory and management: Issues and solutions*. Hospitality Management Review.
- Sarkodie, P., Mensah, K., & Owusu, E. (2023). Gender dynamics in managerial positions in the Ghanaian hospitality industry. *Journal of African Hospitality Management*, 7(2), 45-59.
- Skews, J. (2015). Adding efficiencies to the laundry and hospitality industries with RFID technology. *International Journal of Hospitality Technology*, 6(1), 28-37.
- United Nations World Tourism Organization (UNWTO). (2015). *Global report on the hospitality industry*. UNWTO Publications.
- Wilkins Linen Team. (2018). *Linen management best practices in the hospitality industry*. Wilkins Linen Services.
- Zümrüt, T., Esra, K., Eda, A., & Okşan, D. (2017). Provisions for comfort and security in the hotel industry. *Hospitality & Tourism Journal*, 15(5), 417-428.