Linen Quantity and Customer Satisfaction in Star-Rated Hotels in Upper East Region of Ghana

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Abstract

The universally accepted minimum recommended par of three for a bed enables linen not to be overstretched, which guarantees comfort. The purpose of the study was to investigate the quantity of linen used by star-rated hotels in the Upper East Region of Ghana, its relationship with customer satisfaction, and to test the existence of the association. A descriptive survey research design was employed using quantitative and qualitative approaches. A sample size of 381 comprising 52 hotel staff, 327 guests drawn from 24 star-rated hotels, and two key informants (the director of the Ghana Tourism Authority and the president of the Hoteliers Association), all of the Upper East Region, were used. Data collection was through questionnaires and semi-structured interviews. Means and standard deviation were used for the descriptive statistics. To test the hypothesis at a 5% significance level, simple linear regression was used. The findings indicated that the minimum par level of three for a bed was difficult to provide if hotels were fully booked, but not with the provision of two bath towels for each room. The hypothesis testing showed that linen quantity significantly predicted customer satisfaction ($\beta = .08$, $p = .036$). Consequently, linen quantity use had a significant relationship with customers' satisfaction ($R^2 = 0.017$, $F(2, 324) = 2.89$, $p = 0.036$). The hypothesis that no significant association existed between linen quantity used and customer satisfaction was rejected ($P = 0.036 < 0.05$). The study recommended that the Ghana Tourism Authority should educate and monitor par levels in hotel operations and stress the importance of par levels to improve linen quality.

Keywords: *Linen Quantity, Customer Satisfaction, Star-Rated Hotels, Upper East Region, Ghana*

1.0 Background to the Study

Hotel linen is all launderable textiles, which include bed linen, bath linen, table linen, curtains, staff uniforms, guest clothes, and cleaning cloths (Zümrüt et al., 2017). These textiles are significant to complement hotel efforts worldwide, and no hotel can do without linen (Crown Linen, 2017a). For this article, linen covered bed linen and bath linen. For linen to perform as expected, par level and par stock play significant roles irrespective of the hotel type (Crown Linen, 2017a). Par is the number of quantities of linen (sheets, towels) on hand to support the daily operations of a hotel. According to Kadian-Baumeyer (2019) and Crown Linen (2017b), a par of at least three per bed is generally recommended for hotels. However, Kadian-Baumeyer pointed out that a par of four or five is ideal for busy hotels and reiterated that having extra par on hand could cater for emergencies and replacement of damaged and stolen linen. Crown Linen (2017b) stressed that with a daily laundry cycle by a hotel, the par level should not go below three. Anything below three could put a strain on par stock when unanticipated customers arrive at a facility. A par of three means that if one par of linen is laundered and stored for current use, the second is removed a day prior for current laundering, and the third is in use presently awaiting to be removed and laundered the following day (Brooks, 2014).

Enough par at a facility gives rest periods of at least 24 hours to linen. The rest periods for linen not only increase the lifespan but also maximize the money used (Crown Linen, 2018). Conversely, if the par level is low; linen is washed frequently and no time is allowed for linen to rest. Overstretched linen is liable to a shortened lifespan with a reduced number of times for use and low linen quality (Hasan et al., 2022, Mahardika et al., 2020). Much as overused linen is uncomfortable, it calls for replacement and an added cost (Kadian-Baumeyer, 2019).

1.1 Objective of the Study

To determine the influence of linen quantity and customer satisfaction in star-rated hotels in Upper East Region of Ghana.

2.0 Literature Review

The section presents the theoretical and empirical literature of the study.

2.1 Theoretical Framework

The Expectancy-Disconfirmation Paradigm theory formulated by Oliver (1980) as cited by Zehrer, Crotts and Magnini (2011) was the basis for this study. The theory indicates that consumers have perceived expectations about the performance of goods and services before they enjoy them. When the product or service is used, the outcome is compared to perceived expectations. If the outcome of the product or service conforms with the expected, the consumer is happy and satisfied so, confirmation occurs. On the contrary, if the outcome does not conform to the expected, disconformity occurs resulting in dissatisfaction of the consumer with the product or service. The customer of the hotel facility expects the hotel to have adequate linen and ready-laid beds irrespective of how fully booked the hotel is. A guest would be happy if time is not wasted to be allowed in because of the un-readiness of the linen. Further satisfaction occurs if extra linen can readily be provided for emergencies. However, if time is wasted because of a shortage of linen or the inability of the facility to provide extra linen for emergencies, dissatisfaction is bound to occur.

2.2 Linen Quantity in Hotels and Customer Satisfaction

Par stock denotes the minimum level of supplies required by a hotel to meet its daily operations and ensure the smooth and stable operation of the facility (Kumar, 2020; Up Counsel, 2020). Thus, par stock simplifies inventory taking, prevents overstocking, and eliminates the challenges associated with stock damage. Furthermore, due to the precise supplies required, par stock ensures efficient budgeting, continuous and proper delivery of supplies to make guestrooms ready and clean. Kumar also mentioned the use of par stock as a standardized method of determining minimum supplies, which enables proper inventory management. The term par level is used to estimate par stock for hotel operations (UpCounsel, 2020; Kumar, 2019). PAR (Periodic Automatic Replacement), according to Kumar, is a system that controls inventory and informs what levels of inventory should be in stock to meet demand. According to Up Counsel, the creation of a par level requires the least amount of stock to meet daily demands. The par level is intended to maintain a consistent inventory turnover ratio so that products in stock are always available in sufficient quantities.

A par stock system is in place for both recycled and non-recycled inventories. Recycled inventories in hotel operations, according to Kumar (2020), are items that have relatively short useful lives but are used repeatedly during service. Linen, uniforms, large pieces of equipment, and so on are examples. Non-recycled inventories, on the other hand, are items that are used up repeatedly during routine housekeeping operations. Cleaning supplies and other amenities are among them. This article is about recycled inventory in the form of room linen like bed linen and bath linen. According to UpCounsel (2020) and Crown Linen (2018), a par number is a multiple of the standard quantity for a specific inventory item that must be on hand to support the daily functions of housekeeping. UpCounsel emphasized that par is the smallest stock of linen required to meet a hotel's daily demands and ensure the smooth circulation of linen. One par is the total number of each linen type required to outfit all guestrooms at the same time (Kumar, 2020). Kumar emphasized that linen supplies should be several times greater than what is required in guestrooms for efficient operations, as one par is insufficient.

To have an adequate number of sheets per bed for instance in each hotel room, Kadian-Baumeyer (2019) pointed out an allocation of five par linen (bedsheets). The par level indicated was calculated on a hotel with 100 beds. If three sheets are assigned to a bed. Thus, with one bottom sheet and a top sheet of two, the total sheets per par number would be 300. However, there is a need for extra sheets to be at hand. To calculate the spare sheets, the following was considered:

300 sheets (one multiplied by 300) for one par of linen for beds

300 sheets (one multiplied by 300) for one par of linen in the storage area

300 sheets (one multiplied by 300) for one par of dirty linen in the laundry room

300 sheets (one multiplied by 300) for one par of linen for replacement of damaged or stolen items

300 sheets (one multiplied by 300) for one par for emergencies. A total number of 1,500 sheets are needed for a hotel with a 100-bed capacity.

The par level for each bed is five par linen if the total sheets needed (1,500) is divided by 300 sheets by par (Kadian-Baumeyer, 2019). Crown Linen (2017b) emphasized that three par linens are sufficient on average, but should not be lowered to cause shortages and strain on supply when

unexpected customers flow into a facility. Mahardika et al. (2020) conducted a study at the Kingdom Hotel, a five-star hotel in Bali's Tuban district, to support this accession. The study's goal was to identify problems with linen supplies and their solutions. Interviews and participant observation were used to collect qualitative data. Two major issues have been identified. When the hotel operated below a par level of three, there were linen stock shortages and poor linen quality. The solution assigned to the problems was to increase the par level from two to three in order to improve the par stock system, particularly with regard to sheets and bath towels. The study concluded that with an improved par system, even if housekeepers are scarce or the hotel is struggling with laundry equipment, water, and other necessities, the facility can still function. Kumar (2020) pointed out that the use of a par level to determine the optimum amount of stock needed at hand in the operations of a hotel is beneficial in inventory management.

Par levels ensure correct stock ordering, mitigate against understocking or overstocking, and build greater inventory and wastage control (UpCounsel, 2020; Crown Linen 2016). Crown Linen also indicated improved cash flow with increased profitability and increased customer satisfaction with new supplies. Hasan et al. (2022) conducted a mixed method study in Indonesia on linen handling needs in the context of cleanliness, health, safety, and the environment (CHSE). The goal was to examine the handling of room linen in five-star hotels in Bali's Nusa Dua area. The findings revealed that the housekeeping department's linen management system did not meet linen management standards. The available linen in the hotel did not meet the minimum par level of three, which hampered the hotel's smooth operation when it was fully booked. Due to hotel linen shortages, room attendants were unable to immediately replace used linen with new linen in order to prepare rooms for guests. Linen was seen to be overstretched as a result of hurried laundering procedures. According to the study, a par stock of less than three causes poor linen rotation.

3.0 Methodology

The research employed a descriptive survey research design, which incorporated a combination of quantitative and qualitative data collection techniques, in order to investigate the management of linen and customer satisfaction in star-rated hotels located in the Upper East Region of Ghana. The study encompassed a total population of 459 individuals, including hotel staff, guests, and key informants from the hotel industry. A sample size of 381 was determined using a combination of random and purposive sampling methodologies. The data was obtained through the utilization of structured questionnaires and semi-structured interviews. The verification process was conducted to establish the reliability and validity of the instruments. The data underwent analysis using the Statistical Package for the Social Sciences (SPSS) to conduct both descriptive and inferential statistical analyses. Additionally, the qualitative data was categorized into thematic groups.

4.0 Results and Discussion

A total of 457 questionnaires were distributed to both hotel managers/guests and customers. The response rate was 100% for staff and 84.9% for customers. The response rate for the key informants was 100%. All the hotel staff participants and the key informants for the study were males (100%) whereas for the customers, the males were 58% and females 42%. The dominant gender suggests more males were in leadership positions and the customers might have used the hotels on business grounds (Hagan (2015).

4.1 Linen Quantity and Customer Satisfaction

To assess the par levels of the linen used in the operations of the hotels, the researcher elicited responses on linen quantity used by hotels if all rooms were occupied from both the hotel staff and customers. Means and standard deviations were computed on six-question items. The results on the responses from the perspective of hotel staff and customers/guests are shown in Table 1.

Table 1: Linen Quantity Provided by Hotels

Quantity Provided	Manager-Supervisor Perspective (N=52)		Guest Perspective (N=327)	
	Mean	Standard Deviation (SD)	Mean	Standard Deviation (SD)
Bed Linen Par Level	2.71	1.43	4.21	1.07
Bath Towel Par Level	2.50	1.29	4.13	1.18
Adequate bedsheets/pillow-cases and towels	4.24	1.23	4.00	1.27
Extra Bedsheets and pillowcases for emergencies	3.26	1.44	3.98	1.30
Replace Bedsheets when damaged	3.32	1.51	3.97	1.30
Washed linen used after 24 hours	2.88	1.62	-	-

The means and the standard deviation scores on par levels of bed linen as indicated in Table 1 shows there was a mean of 2.71 (SD = 1.43) and 4.21 (SD = 1.07) for staff and guests respectively. Concerning par levels of bath towels, the mean was 2.50 (SD = 1.29) for staff and 4.13 (SD = 1.18) for guests. The relatively high means on the part of guests coupled with the homogeneity of the standard deviation could mean that guests were the end-users of the quantities of linen provided by the hotels and were comfortable. The findings support the views of UpCounsel (2020) that par controls inventory and informs the needed stock to fulfil a demand. In connection with the provision of adequate bedsheets/pillowcases and towels, the means were 4.24 (SD = 1.23) and 4.00 (SD = 1.27) for staff and guests respectively. The findings suggest both staff and guests highly supported the adequacy of linen for the operations of the hotel considering the relatively high means. The findings are in support of the study of Mahardika et al. (2020) which showed that a deficit in linen par stock renders a challenge to hotels.

The means and standard deviations for the provision of extra sheets for emergencies were (mean = 3.26, SD =1.44) for staff and (Mean = 3.98, SD = 1.30) for guests. In connection with the replacement of sheets when damaged the means and the standard deviations were (mean = 3.32,

SD = 1.51) and (mean = 3.97, SD = 1.30) for staff and guests respectively. The variability as denoted by the scores could mean that excesses of linen could be dependent on many factors such as high or low occupancy levels of a hotel. The findings confirm the advocacy of Kadian-Baumeyer (2019) on extra linen with a par of five to a bed so that replacement of damaged or stolen linen and emergencies can be catered for. The computed mean on the responses from staff regarding wash linen being used after 24 hours was 2.88 (SD = 1.62). The variability as shown by the standard deviation could mean that the hotels might not always be in the position to fulfil the rest period of 24 hours for the usage of washed linen depending on guests in-flow. The finding does not align with Crown Linen (2018) where linen is advocated to be allowed to rest for 24 hours before use. The idea is not only for the increase in linen life span but also for maximization of money and comfort.

The key informants had these to say on the quantity of linen provided by the hotels when interviewed. The GTA director said these on 26th August 2022:

> *No exact numbers are given to the hotels for their operations. But the clue is in the number of rooms in the facility. Well, as a guide for bedsheets and bath towels, at least two each for a bed and a room. Extra linen can be made available for emergencies. Pillowcases should commensurate the number of pillows on the bed plus extra ones. If double beds have two pillows, queen and king-size beds should go for four pillows with their corresponding pillowcases* **(GTA Director), Upper East Region, 2022.**

This was said by the President of the Hoteliers' Association on linen quantity on 11th August 2022:

> *The linen (bed linen, bath linen) should be enough for the operations of the hotel with extra linen for backup. Although the general policy by GTA is at least two bedsheets for a bed and two bath towels for a room, two pillowcases for a double bed and four pillowcases for a queen and king-size bed, some hotels may want to go beyond the prescribed due to competition* **(President Hoteliers' Association), Upper East Region, 2022.**

4.2 Testing the Null Hypothesis Using Regression Model

To assess further the quantity of linen used in the hotels and its association with customer satisfaction, a null hypothesis was formulated:

> H_{01}: *There is no significant association between linen quantity used and customer satisfaction in star-rated hotels in Upper East Region of Ghana.*

A simple linear regression model was used to test if linen quantity significantly predicted customer satisfaction (Table 2). The reason for the choice of the test is for scientific proof to show if a significant association existed between the quantity of linen and customer satisfaction. The null hypothesis was tested at a 5% significant level.

Table 2: Linear Regression Model Summary on Linen Quantity and Customer Satisfaction

Model	Coefficient	Standard Error	T	Sig.	95% Confidence CI
2 (Constant) Linen Quantity	0.08	0.04	2.10	0.036	0.00 – 0.15
R-Squared	0.0175				
Adjusted R-Squared	0.0114				
F(2, 324)	2.89				
No. of Observations	327				

The summary from the simple linear regression model in Table 2 depicts generally the regression was statistically significant (R^2 = 0.017, $F(2, 324)$ = 2.89, p = 0.036). It was found that linen quantity significantly predicted guest satisfaction (β = 0.08, p =.036). It implies that the linen quantities provided by the hotels for use by customers had some influence on the satisfaction of customers. Therefore, Hypothesis one which stated no significant association exists between linen quantity used and satisfaction of customers was rejected (P = 0.036< 0.05). The finding aligns with the views of Kumar (2020) and UpCounsel (2020) that the par stock denotes the minimum level of supplies available daily for the smooth operations of a hotel.

The director, GTA said these on 26th August 2022 when asked about the association between linen quantity and customer satisfaction:

> *There is a link between the quantities of linen hoteliers operate with to the satisfaction of their customers. In a facility, if hoteliers do not provide the needed stock of linen for customers, then, indirectly they are sacking their customers and should not expect them to come back. (**GTA Director), Upper East Region, 2022.***

The President of the Hoteliers Association had this to say on 11th August 2022 concerning the association between linen quantity and customer satisfaction:

> *The business we operate is about competition. The more clients you get the more your sales and money. If your stock of everything is not enough for guests to readily request anything including extra linen, then you must be assured that you will lose customers. (**President Hoteliers' Association), Upper East Region, 2022.***

5.0 Conclusions

Some of the hotels in Upper East Region of Ghana found it difficult to provide the internationally acceptable minimum par level of three of bed linen for each bed if the hotel happens to be at full capacity. However, in the case of bath towels a minimum of two could be provided for each room when a hotel is at its peak. Hotels were able to provide the needed linen on a daily basis and any

other day because the hotels were underutilised. Hotels were also in the position to provide extra linen in case of emergency and could readily change damaged linen for customers at the facility due to low patronage. Washed linen (bedsheets, pillowcases, towels) rested for 24 hours before use. The coefficient of the association of linen quantity and customer satisfaction was in the magnitude of strong to very strong and positive ($r = .67$ to $r = .83$). Linen quantity significantly predicted customer satisfaction ($\beta = .08$, $p = .036$). The study found that the quantity of linen provided at the hotels for customer use had a significant relationship to customers' satisfaction ($P = 0.036 < 0.05$).

6.0 Recommendations

The management of hotels should acknowledge their continuous existence in the business is the result of their customers. The Expectancy Disconfirmation model indicates that hotel customers have perceived expectations about the hotels. If the expectations meet and even exceed what they expect satisfaction occurs and customers become loyal. Customers when satisfied can exhibit positive word of mouth publicly for others (family members, friends and colleagues) to enjoy the products and services. Based on these ideas, hotel management should give their best in terms of linen management. Hotels should ensure they maintain the minimum par level of three and even go beyond for emergencies for the smooth functioning of the facility when all beds are occupied. GTA should intensify their monitoring activities and educate hotels to invest much into par levels of linen. If hotels operate well and customers are satisfied, more goods and services can be patronized for more income to be generated. The higher the returns of the hotels, the higher the revenue to be derived by the government through taxation. Further studies could be carried out to evaluate the monitoring activities of GTA and its impact on hotel operation with special reference to par levels at star category hotels.

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