Evaluating Hotel Employee Characteristics and Services: A Statistical Analysis Using Averages and the Kolmogorov-Smirnov Tests

Mrs. S.Bhargavi , Research Scholar, GIET University, Gunupur.Mail Id:bhargavi.sangaraju@giet.edu,
Dr.T.Lokeswara Rao, Supervisor, Associate Professor, SMS,GIET University,Gunupur
Dr. Lomte Daulatrao M, Co- Supervisor Faculty Member, Indian Culinary Institute, Tirupati, AP

Abstract

This study examines the essential characteristics and services provided by hotel employees and their impact on guest satisfaction. The study focuses on four key characteristics: professionalism, customer service skills, attention to detail, and adaptability. Similarly, we evaluate four critical services: room service, housekeeping, concierge services, and front desk operations. By averaging the ratings for each characteristic and service, we provide a quantitative assessment of employee performance. To explore the relationship between these characteristics and services, we construct a cross table. This allows us to identify patterns and correlations between high and low ratings in each category. Additionally, we employ the Kolmogorov-Smirnov test to compare the distributions of characteristics and services ratings. This statistical test helps determine if there is a significant difference between the two distributions. Our analysis reveals valuable insights into how employee characteristics influence the quality of services provided, highlighting areas for improvement. The findings are intended to guide hotel management in enhancing employee training and performance, ultimately leading to improved guest experiences and satisfaction.

Keywords: Hotel Employee Characteristics, Hotel Employee Services, Kolmogorov-Smirnov test, cross-tabulation.

Introduction

In the hospitality industry, the performance of hotel employees plays a crucial role in shaping guest experiences and satisfaction. Guests' perceptions of a hotel are significantly influenced by their interactions with the staff, making employee characteristics and the quality of services they provide essential factors for success. Understanding these elements can help hotel management improve service delivery, enhance guest satisfaction, and maintain a competitive edge.

This study focuses on evaluating the characteristics and services provided by hotel employees. We examine four key characteristics: professionalism, customer service skills, attention to detail, and adaptability. These traits are vital for employees to effectively fulfill their roles and meet guests' expectations. Additionally, we assess four essential services: room service, housekeeping, concierge services, and front desk operations. These services are critical touchpoints in the guest

experience, contributing to overall satisfaction. To provide a quantitative assessment, we average the ratings for each characteristic and service. This allows us to identify general performance trends and areas needing improvement. Furthermore, we construct a cross table to explore the relationship between high and low ratings in both categories, providing insights into how employee characteristics influence service quality. To deepen our analysis, we utilize the Kolmogorov-Smirnov (K-S) test to compare the distributions of characteristics and services ratings. The K-S test helps determine if there is a significant difference between the two distributions, offering a statistical basis for understanding the relationship between employee traits and service performance. Our findings aim to guide hotel management in enhancing employee training and performance, ultimately leading to improved guest experiences. By focusing on the key characteristics and services that drive guest satisfaction, hotels can better meet the demands of their clientele and achieve higher levels of success in the competitive hospitality market.

Literature Review

Ariffin et al. (2011) found that professionalism, including appropriate attire, punctuality, and respectful communication, significantly enhances guests' perceptions of service quality. Similarly, Hartline and Jones (1996) identified customer service skills as crucial, noting that employees who engage warmly and efficiently with guests contribute to a positive guest experience. Kundu and Gahlawat (2016) demonstrated that employees who quickly adapt to new situations and varying guest needs are better equipped to handle the demands of the industry.

Tsang and Qu (2000) found that timely and accurate room service significantly enhances the guest experience. Ariffin and Maghzi (2012) emphasized the importance of front desk operations in shaping the first and last impressions of guests. Baum (2007) argued that continuous training and development of employees are necessary to maintain high standards of service and adapt to changing guest expectations.

Need for the study
The study is essential for understanding the impact of employee characteristics on service quality helps identify areas where improvements can be made to enhance overall guest satisfaction and loyalty. Analyzing the relationship between employee characteristics and service quality can help identify best practices and operational improvements in key service areas such as room service, housekeeping, and front desk operations. The study adds to the existing body of knowledge in hospitality management, offering new insights into the interplay between employee characteristics and service quality. Overall, this study addresses critical aspects of hotel management, aiming to improve service quality and employee effectiveness, which are crucial for maintaining a competitive edge in the hospitality industry.

"Objective of the study"
To evaluate the impact of key employee characteristics (professionalism, customer service skills, attention to detail, adaptability) on service quality (room service, housekeeping, concierge services, front desk operations).

Hypothesis (H1): There is a significant difference between the distributions of ratings for employee characteristics and service quality.

Research Methodology
Research is the term used to describe a thorough and methodical exploration of pertinent facts. The principal objective of study is to uncover concealed truths that have yet to be unveiled, or to enhance the existing discoveries of prior research endeavors.

Data Collection Methods: Once an investigation issue has been identified, the process of gathering data commences. The research is predominantly based on empirical evidence. The study's data was gathered from a blend of both secondary and primary sources.

Primary Source: Data (640 respondents) was gathered using well-structured questionnaires. Separate questionnaires were developed and distributed. The surveys had a combination of open-ended and closed-ended inquiries.

Table-1
Characteristics of Star Hotel Employees

Characteristics of Star Hotel Employees	"Strongly Disagree"	"Disagree"	"Neutral"	"Agree"	"Strongly Agree"	Total
Professionalism						
Hotel employees should maintain a high level of professionalism, which includes appropriate attire, punctuality, and respectful communication.	75	85	145	205	130	640
"Percentage"	11.72	13.28	22.66	32.03	20.31	100
Customer Service Skills						
The ability to engage with guests warmly and efficiently is crucial. This includes active listening, problem-solving, and providing personalized service.	85	98	125	198	134	640
"Percentage"	13.28	15.31	19.53	30.94	20.94	100
Attention to Detail						

Employees must notice and address the small details that enhance the guest experience, from room cleanliness to remembering guest preferences.	89	103	136	165	147	640
"Percentage"	13.91	16.09	21.25	25.78	22.97	100
Adaptability						
The hospitality industry is dynamic, requiring employees to quickly adapt to new situations and varying guest needs.	84	96	126	192	142	640
"Percentage"	13.13	15.00	19.69	30.00	22.19	100
"TOTAL"	467	517	620	925	671	**2560**
Average	**83**	**96**	**133**	**190**	**138**	**640**

Source : Primary Data

Figure -1
Service Quality of Star Hotel Employees

Table -1 illustrates the viewpoint of the participants regarding the expectation that hotel staff should uphold a strong sense of professionalism, encompassing suitable clothes, timeliness, and courteous communication. 32.03% of the respondents expressed agreement with the statement, while 22.66% indicated a neutral stance. However, 20.31% of those surveyed strongly agreed, whereas 13.28% of respondents disagreed. Just 11.72% of those polled have expressed a "Strongly Disagree" sentiment.

The respondents' viewpoint regarding the importance of being able to interact with guests in a kind and efficient manner. This encompasses the skills of attentive listening, effective problem-solving, and delivering tailored service. 30.94% of the respondents expressed agreement with the statement, while 20.94% strongly agreed. However, 19.53% of those surveyed indicated a "Neutral" stance, while 15.31% of respondents indicated a "Disagree" viewpoint. Merely 13.28% of participants have expressed a "Strongly Disagree" sentiment.

The data presented in Table-1.1 illustrates the viewpoint of the survey participants on the importance of employees being attentive to and addressing minor issues that improve the overall guest experience, such as maintaining room cleanliness and remembering guest preferences. 25.78% of the respondents expressed agreement with the statement, while 22.97% strongly agreed. Yet, 21.25% of respondents indicated a "Neutral" stance, while 16.09% of respondents had a "Disagree" viewpoint. Merely 13.91% of participants have expressed a firm disagreement.

The respondents' viewpoint regarding the statement "The hospitality sector is characterized by its dynamic nature, necessitating employees to promptly adjust to new circumstances and diverse guest requirements." 30% of the respondents have expressed agreement with the statement, while 22.19% have strongly agreed. However, 19.69% of the participants indicated a neutral stance, whereas 15% of the participants stated disagreement. Merely 13.13% of participants have expressed a "Strongly Disagree" stance.

Table-2
Services Provided by Hotel Employees

Services Provided by Hotel Employees	"Strongly Disagree"	"Disagree"	"Neutral"	"Agree"	"Strongly Agree"	Total
Room Service						
Timely and accurate delivery of food and beverages directly to guest rooms.	65	78	154	215	128	640
"Percentage"	10.16	12.19	24.06	33.59	20.00	100
Housekeeping						
Ensuring rooms are clean, well-stocked, and maintained to high standards.	95	108	116	187	134	640
"Percentage"	14.84	16.88	18.13	29.22	20.94	100
Personal Assistance						
Assisting guests with restaurant reservations, transportation arrangem	98	115	125	156	146	640
"Percentage"	15.31	17.97	19.53	24.38	22.81	100
Front Desk Operations						

Efficient check-in/check-out processes, handling guest inquiries, and managing bookings.	81	95	125	185	154	640
"Percentage"	12.66	14.84	19.53	28.91	24.06	100
"TOTAL"	467	517	620	925	671	**2560**
Average	**85**	**99**	**130**	**186**	**140**	**640**

Source : Primary Data

Figure-2
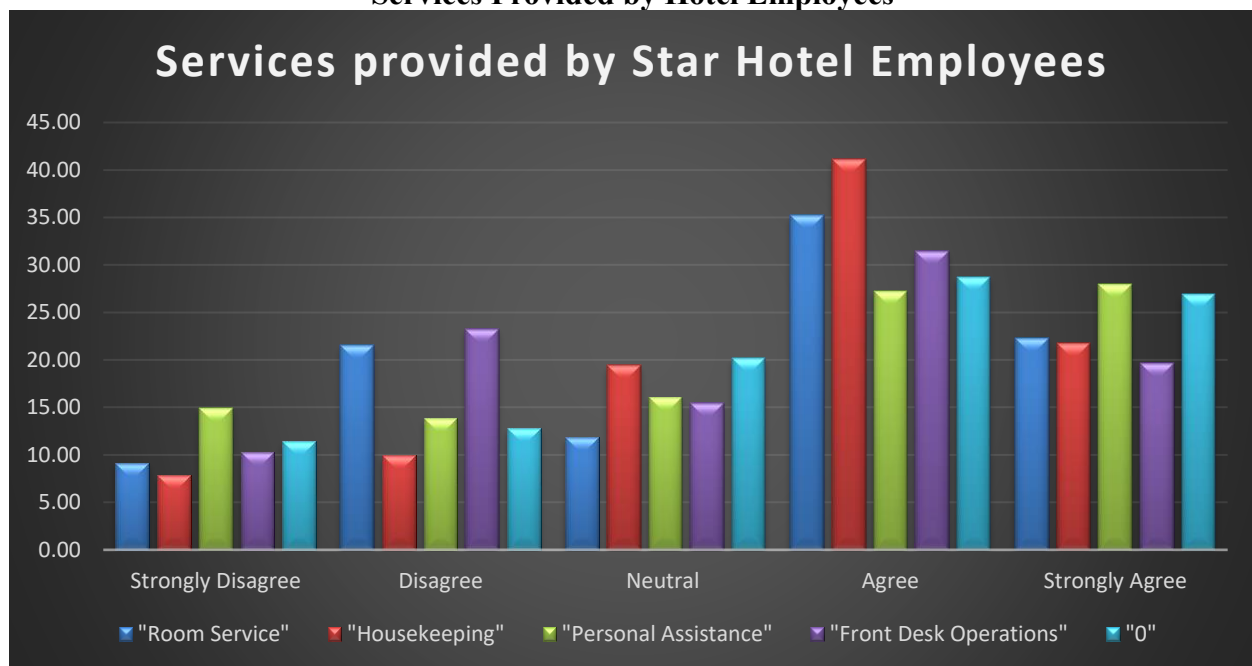**Services Provided by Hotel Employees**

Table -2 illustrates the respondents' viewpoint regarding the prompt "Prompt and precise shipment of food and drinks right to guest rooms." 33.59% of the respondents expressed agreement with the statement, while 24.06% indicated a neutral stance. However, 20% of the respondents strongly agreed, whereas 12.19% of the respondents disagreed. Merely 10.16% of participants have expressed a "Strongly Disagree" viewpoint.

The respondents' viewpoint regarding the "Maintenance of rooms to a high standard, ensuring cleanliness and adequate supplies." 29.22% of the respondents expressed agreement with the statement, while 20.94% strongly agreed. However, 18.13% of those surveyed indicated a

"Neutral" stance, while 16.88% of respondents had a "Disagree" viewpoint. Merely 14.84% of participants have expressed a firm disagreement.

The respondents' viewpoint on "Providing assistance to guests with booking dining establishments and transportation arrangements". 24.38% of the respondents expressed agreement with the statement, while 22.81% strongly agreed. Nevertheless, 19.53% of participants indicated a "Neutral" sentiment. 17.97% of the respondents have expressed a viewpoint of "Disagree". Merely 15.31% of participants have expressed a "Strongly Disagree" viewpoint.

The respondents' viewpoint regarding "Effective check-in/check-out procedures, handling guest requests, and managing bookings." 28.91% of the respondents expressed agreement with the statement, while 24.06% strongly agreed. Yet, 19.53% of respondents indicated a "Neutral" stance, while 14.84% of respondents indicated a "Disagree" viewpoint. Merely 12.66% of participants have expressed a "Strongly Disagree" sentiment.

Hypothesis Testing - KOLMOGOROV-SMIRNOV TEST

"Alternative Hypotheses (H_1): There is a significant difference between the distributions of ratings for employee characteristics and service quality."

Cross Table- (1 and 2)

Table No-3

Services Provided by Hotel Employees	Characteristics of Star Hotel Employees					
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Strongly Disagree	8	11	16	24	24	83
	9.64	13.25	19.28	28.92	28.92	
Disagree	10	12	22	31	21	96
	10.42	12.50	22.92	32.29	21.88	
Neutral	15	22	25	48	23	133
	11.28	16.54	18.80	36.09	17.29	
Agree	27	27	42	48	46	190
	14.21	14.21	22.11	25.26	24.21	
Strongly Agree	25	27	25	35	26	138
	18.12	19.57	18.12	25.36	18.84	
Total	**85**	**99**	**130**	**186**	**140**	**640**

Services Provided by Hotel Employees	Characteristics of Star Hotel Employees														
	Strongly Disagree			Disagree			Neutral			Agree			Strongly Agree		
	X	W	XW	X	W	XW	X	W	XW	X	W	XW	X	W	XW
Strongly Disagree	8	1	8	11	1	11	16	1	16	24	1	24	24	1	24
Disagree	10	2	20	12	2	24	22	2	44	31	2	62	21	2	42
Neutral	15	3	45	22	3	66	25	3	75	48	3	144	23	3	69
Agree	27	4	108	27	4	108	42	4	168	48	4	192	46	4	184
Strongly Agree	25	5	125	27	5	135	25	5	125	35	5	175	26	5	130
Total	85		306	99		344	130		428	186		597	140		449

"Kolmogorov-Smirnov Test"

F	CF	$F_0(X)$	E	CE	$F_e(X)$	$F_0(X)-F_e(X)$
3.60	3.60	0.21	3.35678	3.35678	0.20	0.01
3.47	7.07	0.42	3.35678	6.71355	0.40	0.022(Dmax)
3.29	10.37	0.62	3.35678	10.0703	0.60	0.018
3.21	13.58	0.81	3.35678	13.4271	0.8	0.01
3.21	16.78	1	3.35678	16.7839	1	0
16.78				16.78		

F = Observed frequency. CF = Cumulative frequency.
E = Expected frequency. D_{max} = Maximum deviation.
H_0 = Null Hypotheses. H_1 = Alternative Hypotheses.
n = Sample size.

Calculated value of D_{max} = 0.022
Table value @ 5% level of significance =1.36/√n =1.36/√640 = 0.054

Result: The calculated value for Dmax (0.022) is smaller than the table value (0.054). Therefore, we accept the null hypothesis (H0) and conclude that there is not a significant variance in the distributions for ratings for personnel attributes and service quality.

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