

Effect of Automated Check in on Service Delivery in Star-Rated Hotels in Uasin Gishu County, Kenya

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Abstract

Service delivery in star-rated hotels is a complex process that demands meticulous attention to detail, customer-centricity and operational efficiency. This study evaluated the effect of automated check-in systems on service delivery in star-rated hotels located in Uasin Gishu County, Kenya. The study employed the Technology Acceptance Model (TAM). A descriptive survey design was utilized, targeting a population of 171 individuals, from which a sample of 131 respondents was drawn, including ICT managers, operation managers and supervisors. The data was collected through a questionnaire designed with a five-point Likert scale. It was then coded into Statistical Package for Social Sciences (SPSS) Version 25 and analyzed using both descriptive and inferential statistical methods. Findings showed that there was a moderate significant effect of automated check in on service delivery in star-rated hotels in Uasin Gishu County, Kenya ($r=0.567$; $p<0.01$). Also, the analysis showed that automated check-in has a positive impact on service delivery in these hotels ($\beta=0.564$, $p=0.025$). The study concluded that implementing automated check-in systems not only improves operational efficiency but also contributes positively to customer satisfaction and security. Therefore, it is recommended that star-rated hotels in Uasin Gishu County adopt advanced automated check-in technologies, such as biometric systems, to further enhance service delivery and meet customer expectations effectively.

Keywords: Automated check in, service, delivery, star-rated hotels, Kenya

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Introduction

The delivery of services in star-rated hotels is a multifaceted challenge that necessitates meticulous attention to detail, a strong customer orientation, and operational efficiency (Ayachit & Chitta, 2022). The competitive landscape within the hospitality sector has escalated, compelling star-rated hotels to enhance their service offerings and amenities. Innovations such as robotic concierges and augmented reality check-in systems have been adopted by some hotel chains to distinguish themselves from competitors (Pencarelli, 2020). In this industry, exceptional customer service is often regarded as fundamental to a hotel's success. Star-rated hotels globally strive for excellence in this area by providing personalized attention and a diverse range of amenities to ensure guest satisfaction (Walker, 2021).

Chibili (2019) emphasizes that "excellence in customer service is a hallmark of star-rated hotels," underscoring the significance these establishments place on enhancing guest experiences. To achieve high standards of service, many star-rated hotels invest significantly in employee training programs (Teng, 2019). Staff are trained to anticipate guests' needs and deliver tailored services that cater to individual preferences (Bonaretti et al., 2020). Furthermore, luxury hotels often provide unique amenities such as spa treatments and gourmet dining options that elevate the overall guest experience (Shahid & Paul, 2022). Despite their higher costs compared

to other lodging options, star-rated hotels continue to attract tourists seeking superior customer service as part of their travel experience. The personalized attention they offer creates memorable experiences for travelers worldwide (Lyu et al., 2019).

Globally, star-rated hotels are increasingly utilizing information technology to enhance customer experiences and maintain a competitive edge (Kim et al., 2023). Innovative solutions aimed at improving personalization and guest satisfaction are setting new benchmarks in the hospitality sector (Sharma, 2016). As guests demand more personalized services, technology adoption has allowed these hotels to meet expectations effectively (Gioko, 2024). The integration of automated check-in processes and mobile concierge services is transforming various operational aspects within hotels (Koleka & Sharma, 2020). This technological shift is evident in numerous countries where modern advancements are rapidly being incorporated into existing systems.

Countries such as the USA, Canada, and South Africa have embraced information technology to boost efficiency and enhance customer experiences in star-rated hotels (Amoako et al., 2023). Features like online bookings, mobile check-ins, and digital room service orders have become commonplace in many hotel operations (Sharma, 2016). These technological advancements have fundamentally changed how customers

engage with hotels (Buhalis et al., 2019). For instance, guests no longer endure long waits at reception for check-in or face busy phone lines for room service; instead, they can seamlessly access these services via their smartphones (Zelege & Kumar, 2020). The Info Quest Service Science case study illustrates how technology has redefined hotel service delivery by altering economic roles and relationships within the industry (Sari, 2018). Consequently, value creation involves multiple stakeholders, including guests who increasingly favor tech-friendly experiences when selecting accommodations (Atakpa et al., 2020). The convenience of online room bookings facilitates easier trip planning for travelers while minimizing errors associated with manual processes (Talwar et al., 2020).

In Uasin Gishu County, the ideal scenario for service delivery in star-rated hotels would involve consistently high-quality services that surpass guest expectations (Marangu, 2021). The region's hotel sector has seen remarkable growth due to an increasing number of visitors (Mabeya, 2019). With advancements in information technology available, it is anticipated that hotel management would capitalize on these opportunities to enhance their services (Ivanov et al., 2020). However, despite the proliferation of upscale hotels and lodges in Uasin Gishu County, guests frequently report dissatisfaction with their experiences. Issues such as poor customer service and unmet expectations remain prevalent concerns (Cornwall et al., 2019). Over 70% of guests at star-rated hotels have reported experiencing inadequate service during their stays (Sann et al., 2022). Surveys by the Tourism Regulatory Authority (TRA) indicate a notable decline in tourism activity within the county over the past year due to unsatisfactory service delivery. This alarming trend necessitates urgent action from all stakeholders

involved to revitalize this crucial economic sector.

Research on the impact of information technology on customer satisfaction within Uasin Gishu County's star-rated hotels remains limited. A study by Owuor (2017) indicated a positive correlation between IT use and customer satisfaction; however, it was restricted to a sample size of only 100 customers and did not explore factors such as automated check-in or personalized guest experiences. Similarly, Awuondo's study (2018) found that IT positively influences employee productivity in these hotels. Chepkwony (2019) highlighted IT's beneficial effects on hotel revenue but was confined to a sample of just ten hotels without addressing its impact on service delivery. Therefore, this study aims to investigate the effect of automated check-in and other IT innovations on service delivery in star-rated hotels within Uasin Gishu County, Kenya.

Literature Review

Theoretical framework

This study is guided by the Technology Acceptance Model (TAM), developed by Davis in 1985. TAM posits that an individual's perceived usefulness (PU) and perceived ease of use (PEU) of a technology significantly influence their intention to use that technology. This intention, in turn, directly affects the actual usage of the technology. Over the years, TAM has been expanded to include additional factors influencing behavioral intentions, such as social influence, age, and gender, leading to the development of TAM. TAM has been widely applied across various sectors beyond traditional workplaces, including telemedicine, educational digital tools, mobile applications, and e-learning platforms. In the context of the hotel

industry, TAM is utilized to analyze the adoption and usage of various information technologies such as automated check-in systems, personalized guest experiences, smart room controls, and automated tracking mechanisms aimed at enhancing service delivery in star-rated hotels in Uasin Gishu County, Kenya. When guests view these technologies as both useful and easy to use, they are inclined to develop a positive attitude toward them, thereby increasing their intention to utilize them. Consequently, actual usage is determined by these intentions. Addressing these key determinants of technology acceptance can significantly enhance the likelihood of successful implementation and adoption of technological systems in hotels, ultimately improving service delivery and guest satisfaction. However, it is important to acknowledge some criticisms of TAM. Critics point out its limited consideration of subjective norms or social influences and its inadequate guidance on how to enhance the perceived usefulness and ease of use of technologies. Additionally, since TAM was originally formulated for workplace IT adoption, its applicability in the voluntary consumer context such as hotel guests may require further exploration.

Empirical review

Automated service delivery system is the design, programming and utilization of smart technologies as well as information and communication systems to facilitate the delivery of services to consumers. It is also known as process automation, robotic process automation, intelligent process automation, machine learning, and artificial intelligence (Awara et al., 2022). In the view of Ulas (2019), it is a network of interrelated computers and digital technologies that enable and support the delivery of services to users with minimal or no human intervention. It

helps to enable a digitally equipped enterprise or a business to transform service delivery and operations to enhance cost savings, accuracy, and productivity scale.

According to Napierała, Karović and Ivanochko (2020), an online booking system is a piece of software used for reservation management. Basically, it allows a potential customer to book and pay for a hospitality/hotel service directly through a website or software program. On the other hand, self-service check-in kiosk is an automated software or digital touch kiosk that allows guests to expedite more routine tasks like booking, check-ins, checkouts, and room service requests by themselves instead of relying on hotel front desk staff (Awara, Odigbo, Anyadighibe & Esiet, 2022). While, a smart room service is an automated software accessible on a smartphone or tablet which enables hotel guests to expeditiously access room service such as order a meal, request for housekeeping service, and control amenities within the room (Shin & Kang, 2020).

Automated technology is revolutionizing the service industry and is a necessity in order to provide quality service. According to Kolberg and Zühlke (2017) there are several ways in which hotels can incorporate the use of automated processes to improve service delivery, efficiency to customers and profit to the organization. Many areas in the hotels are explored for automation to analyze the role played by it. The findings indicate that there is a high prevalence of usage of function based software's that has resulted in process improvement, customer outreach through GDS, increased revenue and enhanced service delivery. However, challenges prevail in the areas like front office areas where there is a high level of personal interaction with customers. There is a positive perception about automation,

but training and customization have been indicated as key for success (Ustundag, Cevikcan & Karacay, 2018).

The hospitality industry has undergone significant transformations in recent years, driven by technological advancements (Pillai, Haldorai, Seo & Kim, 2021). One area that has seen particular innovation is the implementation of automated check-in and service delivery systems in star-rated hotels. These systems offer a more efficient, convenient, and personalized experience for guests, while also improving operational efficiency for hotels (Car, Stifanich & Šimunić, (2019). Research has consistently shown that automated check-in systems can enhance guest satisfaction by reducing waiting times, providing personalized services, and streamlining the registration process. Kim, Joe and Erdem, (2023) found that guests who utilized automated check-in kiosks reported higher levels of satisfaction compared to those who checked in at the traditional front desk. Additionally, automated service delivery systems can improve guest experience by ensuring timely and efficient fulfilment of requests for room service, concierge services, and other amenities (Arapou & Kapiki, 2023).

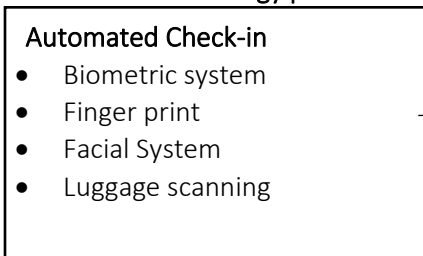
Yousaf, Usman and Yousaf (2020) indicated that technology has been a key medium of successful operations in the hospitality industry because it helps service organizations perform their tasks efficiently. In addition, technology also allows service firms to meet or exceed customers' expectation more effectively. Due to the development of technology, one of the major trends in the hospitality industry is that services have increasingly migrated from traditional human interaction services (HISs) which are delivered by personnel service providers, to self-service technologies (SSTs) which are co-produced by customers (Khan, Khan, Ahmed, Farooqi, Yousefi, Mohammadi & Changani, 2020). In view of that, one of the major benefits of applying SSTs from the organization's perspective is the reduced operation cost due to lower personnel expenses (Giousmpasoglou & Hua, 2020).

Conceptual framework

According to the summary of the reviewed literature, there are conceptual, methodological, and contextual gaps that need to be filled. As a result, to fill the identified gaps, this study proposes Figure 1 as its conceptual framework.

Independent Variables

Information technology practices



Dependent Variable

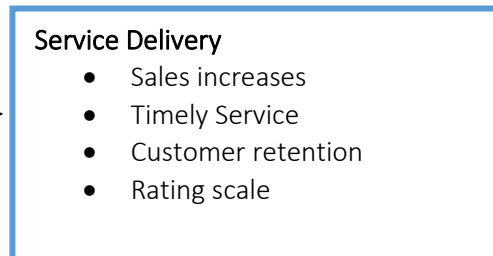


Figure 1: Conceptual framework

Source: Kim, Eves, and Scarles (2013)

Methodology

The study adopted descriptive survey design. Descriptive survey design is a research approach that aims to systematically gather information to describe a phenomenon, situation, or population. The study was carried out in star-rated hotels in Uasin Gishu County, Kenya. The target population comprised of 12 operation managers, 12 ICT managers and 147 operation supervisors. The sample size for this study was 131 respondents comprising of 107 supervisors calculated using Yamane formula, 12 operation managers and 12 ICT managers. Stratified random sampling method was adopted according to the selected hotels and their structures. The hotels were stratified according to their star rating. Purposive sampling was used to select 12 ICT managers and 12 operation managers since the population is small and manageable during data collection (Salvo, Jacoby & Lobo, 2020). The study used simple random sampling technique to select the 107 supervisors from hotels. The study used questionnaires to collect data from the respondents.

A pilot study was carried out in Nakuru County which did not involve in the main study, but has same characteristics with Uasin Gishu County. Pilot study was carried out to determine the validity and reliability of the research instruments on the study. The researcher administered 13 questionnaires to respondents representing 10% of the sample size (Connelly, 2008). The collected data were cleaned, coded, managed and analyzed with the aid of SPSS software version 25. Descriptively, data were analyzed using frequency, percentages, means, and standard deviations. Inferentially, data were analyzed using regression model as shown below:

$$y = \alpha + \beta_1 x_1 + \epsilon_i \dots \dots \dots \text{Equation 1}$$

Where;

y represent service delivery in star-rated hotels in Uasin Gishu County, Kenya

α represent constant.

β_1 represent the slope which represents the degree in which service delivery as the dependent variable change by one-unit increase of the independent variable

x_1 represent automated check in

ϵ represent error term

Analyzed data was presented in form of frequency tables.

The major ethical issues of concern are informed consent, privacy and confidentiality, anonymity, and the researcher's responsibility. The purpose of the study was explained to the participants, after which consent from respondents was sought. The participant's had the right to withdraw from the study at any time. Confidentiality has to do with the agreement between individuals that limits others' access to private information. The researcher, therefore, obtained consent from the necessary authorities/letter from NACOSTI and the respondents before obtaining information from them. The researcher ensured that the respondents are made aware of the intended use of the data and that the information to be obtained was kept confidential.

Results and Discussion

Response rate

The study presented the response rate of the respondents. This resulted from the presented questionnaires for the survey. Table 1 presented the results.

Study findings in Table 1 showed 131 questionnaires were issued to respondents and 119 questionnaires were returned. The response rate was 90.8%. The questionnaire yielded over 60% of

response rate which is satisfactory according to Mugenda and Mugenda (2003).

Table 1: Response rate

	Number	Percentages
Responded	119	90.8
Not responded	12	9.2
Administered questionnaires	131	100

Source: Field Data (2024)

Service delivery in star-rated hotels

The table 2 below presents the responses regarding service delivery in star-rated hotels, measured using various statements. The results are based on a

Likert scale ranging from Strongly Agree (SA) to Strongly Disagree (SD), with corresponding means and standard deviations provided for each statement.

Table 2: Descriptive statistics on service delivery in star-rated hotels

Statement		SA	A	UN	D	SD	Mean	Std.
1. The hotel has recorded increase in sales.	F	31	51	20	15	2	3.79	1.024
	%	26.1	42.9	16.8	12.6	1.7		
2. There has been timely service deliverance indicated by the clients.	F	43	44	19	9	4	3.95	1.064
	%	36.1	37.0	16.0	7.6	3.4		
3. The hotel has managed to retain customers over a period of time.	F	39	37	30	4	9	3.78	1.166
	%	32.8	31.1	25.2	3.4	7.6		
4. The hotel has received a positive and increased star rating over time.	F	19	50	28	16	6	3.50	1.073
	%	16.0	42.0	23.5	13.4	5.0		

Source: Field Data (2024)

Table 2 showed that 82(69%) of the respondents agreed that the hotel has recorded increase in sales. However, 17(14.3%) of the respondents disagreed that that the hotel has recorded increase in sales. Further, the study findings showed in terms of means and standard deviation, the respondents agree that that the hotel has recorded increase in sales (Mean=3.79, Std. dev=1.024). These findings agreed with Mun, Woo and Paek, (2019) indicate that there are substantial customers' needs for F&B offering in upscale hotels.

Another 87(73.1%) of the respondents agreed that there has been timely service deliverance indicated by the clients. On the other hand, 13(11%) of the respondents disagreed there has been timely service deliverance indicated by the

clients. Further the study findings showed in terms of means and standard deviation, the respondents agree that there has been timely service deliverance indicated by the clients (Mean=3.95, Std. dev=1.064). These findings are consistent with Matthews and Mokoena, (2020) evidenced by nationwide service delivery protests, suggesting that the quality of service that is expected to be delivered, as envisaged by the public, as customers, is not being delivered to expectation.

The study findings further indicated that 76(63.9%) of the respondents agreed the hotel has managed to retain customers over a period of time. However, 17(11%) of the respondents disagreed that the hotel has managed to retain customers over a period

of time. Further the study findings showed in terms of means and standard deviation that respondents agree that the hotel has managed to retain customers over a period of time (Mean=3.78, Std. dev=1.166). The findings finally indicated that 69(58%) of the respondents agreed that the hotel has received a positive and increased star rating over time. However, 22(18.4%) of the respondents disagreed that the hotel has received a positive and increased star rating over time. Further the study findings showed in terms of means and standard deviation that the hotel has received a

positive and increased star rating over time (Mean=3.50, Std. dev=1.073).

Effect of automated check in on service delivery in star-rated hotels

The study sought to determine the effect of automated check in on service delivery in star-rated hotels in Uasin Gishu County, Kenya. To achieve this, a five-point Likert scale was used where;

1=Strongly Disagree, 2=Disagree, 3=Undecided, 4=Agree, 5=Strongly Agree.

The study findings were presented in Table 3.

Table 3: Automated check in on service delivery in star-rated hotels

Statement		SA	A	UN	D	SD	Mean	Std.
1. The biometric system makes the customer check-in process more efficient.	F %	32 26.9	41 34.5	36 30.3	7 5.9	3 2.5	3.77	.995
2. The fingerprint system makes the customer feel more secure.	F %	41 34.5	48 40.3	17 14.3	7 5.9	6 5.0	3.93	1.087
3. The facial system makes the customer feel more welcome.	F %	36 30.3	38 31.9	28 23.5	10 8.4	7 5.9	3.72	1.157
4. The luggage scanning system makes the customer feel more confident that their belongings are safe.	F %	28 23.5	46 38.7	17 14.3	17 14.3	11 9.2	3.53	1.254
5. The biometric system has improved the overall service delivery in the hotel.	F %	42 35.3	46 38.7	14 11.8	10 8.4	7 5.9	3.89	1.156
6. The customers have been recommending the hotel to others customers because of the efficiency of biometric system.	F %	43 36.1	44 37.0	17 14.3	13 10.9	2 1.7	3.95	1.048

Source: Field Data (2024)

Study findings in Table 3 revealed that majority of the respondents 73(61.4%) agreed that the biometric system makes the customer check-in process more efficient. However, 10(8.4%) of the respondents disagreed that the biometric system makes the customer check-in process more efficient. Further, the study results also showed, in terms of mean and standard deviation the study agree the biometric system makes the customer check-in process more efficient (Mean=3.77, standard deviation=0.995). The study done by Boo and Chua, (2022) showed that hotel guests performed

calculative cognitive processes, weighing the benefits and risks of using facial recognition check-in system. Contradictory to the past research which suggested that trust activates both perceived risk and benefits, this study demonstrated that trust independently directed consumer attention on the benefits gained while risk perception was triggered by privacy concern.

Also, the study findings revealed that majority of the respondents 89(74.8%) agreed that the fingerprint system makes the customer feel more secure. However, 13(10.9%) of the respondents disagreed

that the fingerprint system makes the customer feel more secure. Further, the study results also showed, in terms of mean and standard deviation that respondents agreed that the fingerprint system makes the customer feel more secure (Mean=3.93, standard deviation=1.087). Siagian, Tarigan and Andreani, (2020) information integration affects the hotel performance, information integration influences the strategic purchasing, the information integration affects the green operation, the strategic purchasing influences the green operation, the strategic purchasing affects the hotel performance, the green operation affect hotel performance.

Furthermore, it was noted from the study that, majority of the respondents 74(62.2%) agreed that the facial system makes the customer feel more welcome. However, 17(14.3%) of the respondents disagreed that the facial system makes the customer feel more welcome. Further, the study results also showed, in terms of mean and standard deviation that respondents agreed that the facial system makes the customer feel more welcome (Mean=3.72, standard deviation=1.157). In addition, 74(62%) of the respondents agreed the luggage scanning system makes the customer feel more confident that their belongings are safe. However, 28(23.5%) of the respondents disagreed that the luggage scanning system makes the customer feel more confident that their belongings are safe. Further, the study results also showed, in terms of mean and standard deviation that respondents disagreed that the luggage scanning system makes the customer feel more confident that their belongings are safe (Mean=2.53, Std. dev=1.254). these findings agreed with Bacinskas and Kempers, (2020) show that customer satisfaction process begins at the need

recognition and how it is perceived depends on the experience of each person.

Further the study findings show majority of the respondents 88(74%) agreed that the biometric system has improved the overall service delivery in the hotel. However, 17(14.3%) of the respondents disagreed that the biometric system has improved the overall service delivery in the hotel. Further, the study results also showed, in terms of mean and standard deviation that respondents agreed that the biometric system has improved the overall service delivery in the hotel (Mean=3.89, standard deviation=1.156). The study done by Lehto, Park, Mohamed and Lehto, (2023) revealed that the respondents did not show enthusiastic support for biometrics-based hotel services.

Finally, 87(73.1%) of the respondents agreed the customers have been recommending the hotel to others customers because of the efficiency of biometric system. However, 15(12.6%) of the respondents disagreed that the customers have been recommending the hotel to others customers because of the efficiency of biometric system. Further, the study results also showed, in terms of mean and standard deviation that respondents agreed that the customers have been recommending the hotel to others customers because of the efficiency of biometric system (Mean=3.95, Std. dev=1.048). These findings are consistent with Boo et al, (2022) demonstrated that trust independently directed consumer attention on the benefits gained while risk perception was triggered by privacy concern.

Relationship between automated check in and service delivery of star rated hotels in Uasin Gishu County

The study carried out correlation analysis using Pearson correlation to

evaluate the relationship between the implementation of automated check-in systems and the service delivery in star-

rated hotels within Uasin Gishu County. Table 4 below presented the analysed results.

Table 4: Correlation Analysis Results

		Service Delivery	Automated check in
Service Delivery	Pearson Correlation	1	
Automated check in	Pearson Correlation	.567**	1
	Sig. (2-tailed)	.000	

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

Source: Field Data (2024)

Findings of the study in Table 4 showed that there was a significant effect of automated check in on service delivery in star-rated hotels in Uasin Gishu County, Kenya (r=0.567; p<0.01). This suggests a moderately strong relationship between

the adoption of automated check-in and improved service delivery in these hotels.

Regression analysis

The study used regression analysis to determine the relationship between dependent and independent variable. Table 5 presents the results.

Table 5: Multiple regression coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.625	.291		5.585	.000
Automated check in	.564	.076	.567	7.443	.000

Source: Field Data (2024)

Regression of coefficients results in Table 5 revealed that automated check in have a positive and significant effect on service delivery in star-rated hotels in Uasin Gishu County, Kenya (β=0.564, p=0.000).

The optimal model was.

$$Y = 1.625 + 0.564X_1 \dots \dots \dots \text{Equation 1.}$$

The study hypothesized that Automated check in has no statistically significant effect on service delivery in star-rated hotels in Uasin Gishu County, Kenya. The null hypothesis (H_{01}) was rejected and concluded that Automated check in has statistically significant effect on service delivery in star-rated hotels in Uasin Gishu County, Kenya (β₁=0.564, p=0.025). The study done by Tesot, (2021) revealed that there is high employee turnover in star

rated hotels in Eldoret town which affects the performance of the hotels negatively.

Conclusion and Recommendation

The study concluded that automated check-in has a significant positive effect on service delivery in star-rated hotels in Uasin Gishu County, Kenya. The biometric system makes the customer check-in process more efficient. The fingerprint system makes the customer feel more secure. The facial system makes the customer feel more welcome. The luggage scanning system makes the customer feel more confident that their belongings are safe. The biometric system has improved the overall service delivery in the hotel. The study recommends that star-rated hotels should

implement automated check-in systems, specifically biometric systems, as they have a positive and significant effect on service delivery.

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