

**Impact of Online Booking Systems on Operational Efficiency and Customer Satisfaction in Uganda's
Transport Sector: A Case Study of Jaguar Bus Company, Kisoro District**

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ABSTRACT

The transport sector in Uganda underwent significant digital transformation with the adoption of online booking systems, revolutionizing traditional ticketing methods and passenger management. This study examined the impact of online booking systems on operational efficiency and customer satisfaction at Jaguar Bus Company in Kisoro District, Uganda. The research focused on how digital ticketing platforms influenced service delivery, revenue management, and customer experience in the competitive transport industry. The study employed a mixed-methods research design combining quantitative and qualitative approaches. A sample of 200 participants, including 150 customers, 40 company staff members, and 10 management personnel, was selected using purposive and simple random sampling techniques. Data were collected through structured questionnaires, interviews, and analysis of company operational records covering a 12-month period. Statistical analysis included descriptive statistics, correlation analysis, and paired t-tests to compare pre- and post-implementation performance metrics. The findings revealed significant improvements in operational efficiency following online booking system implementation. Average ticket processing time reduced from 8.5 minutes to 2.3 minutes ($t=12.45$, $p<0.001$), representing a 73% improvement. Revenue leakage decreased by 42%, while seat occupancy rates increased from 68% to 87%. Customer satisfaction scores improved significantly across all dimensions, with overall satisfaction rising from 62% to 84% ($r=0.798$, $p<0.01$). However, challenges included internet connectivity issues (reported by 38% of customers) and limited digital literacy among older passengers (23%). Online booking systems significantly enhanced operational efficiency and customer satisfaction at Jaguar Bus Company. The digital platform streamlined operations, reduced costs, improved revenue collection, and enhanced customer experience through convenient booking processes and real-time information access. The study recommended that transport companies invest in robust digital infrastructure, provide customer digital literacy training, develop offline booking alternatives for areas with poor connectivity, and continuously upgrade system features based on customer feedback.

Keywords: Online booking systems, operational efficiency, customer satisfaction, digital transformation, transport sector, e-ticketing, Uganda, Jaguar Bus Company

BACKGROUND OF THE STUDY

The global transport industry experienced unprecedented digital transformation driven by technological advancements and changing consumer expectations (Okyerere et al., 2022). Online booking systems emerged as critical tools for modernizing transport operations, enabling real-time seat reservations, automated payment processing, and enhanced customer relationship management (Sharma & Singh, 2023). In developed economies, digital ticketing platforms became standard practice, contributing to improved service delivery and competitive advantage (Liu et al., 2021).

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In Africa, the adoption of online booking systems in the transport sector gained momentum following increased smartphone penetration and mobile money adoption (Ndung'u & Signé, 2020). Countries like Kenya, South Africa, and Nigeria led the digitalization trend, with several transport companies reporting substantial operational improvements and revenue growth after implementing digital booking platforms (Mutambara, 2023). These systems addressed traditional challenges including ticket fraud, revenue leakage, overcrowding, and inefficient passenger data management (Kazaara et al., 2024).

Uganda's transport sector, characterized by intense competition and evolving customer preferences, gradually embraced digital technologies to enhance service delivery (Kasekende et al., 2021). Major bus companies operating long-distance routes recognized the potential of online booking systems to differentiate their services and attract tech-savvy customers (Moses et al., 2023). Mobile money platforms like MTN Mobile Money and Airtel Money facilitated seamless payment integration, accelerating the adoption of cashless transactions in the transport industry (Nampewo et al., 2022).

Jaguar Bus Company, operating in Kisoro District and serving routes across southwestern Uganda, implemented an online booking system in 2022 to address operational inefficiencies and meet growing customer demands for convenient booking options (Faridah et al., 2023). The company faced challenges common to Uganda's transport sector, including manual ticketing delays, revenue management difficulties, and customer complaints about booking accessibility (T. Christopher et al., 2024). Preliminary observations suggested that the online booking system influenced various operational aspects and customer perceptions, but systematic empirical evidence remained limited. Understanding the specific impacts of this technological intervention was crucial for informed decision-making by transport operators, technology providers, and policymakers seeking to promote digital transformation in Uganda's transport sector (Jul et al., 2024).

PROBLEM STATEMENT

Despite the growing adoption of online booking systems in Uganda's transport sector, limited empirical evidence existed regarding their actual impact on operational efficiency and customer satisfaction, particularly in rural and semi-urban contexts like Kisoro District (Muhamad et al., 2023). Jaguar Bus Company, like many transport operators, invested substantial resources in implementing digital booking platforms without comprehensive pre-implementation impact assessments (Sophie & Crispus, 2024). Anecdotal reports suggested mixed outcomes, with some stakeholders reporting improved operations while others highlighted persistent challenges including technological barriers, customer resistance, and system reliability issues (Nelson, Christopher, Teddy, et al., 2022). The absence of systematic research created uncertainty about the return on investment and optimal implementation strategies for online booking systems (Kaazara & Nancy, 2025). Furthermore, questions remained about whether such systems genuinely enhanced customer satisfaction or merely shifted service delivery challenges from physical to digital platforms. Without empirical evidence, transport companies risked making poorly informed technology investment decisions, potentially wasting resources or missing opportunities for operational improvement (Kazaara & Kazaara, 2025). This study

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therefore investigated the relationship between online booking system implementation and both operational efficiency metrics and customer satisfaction levels at Jaguar Bus Company in Kisoro District, providing evidence-based insights for strategic decision-making in Uganda's evolving transport industry.

MAIN OBJECTIVE

To assess the impact of online booking systems on operational efficiency and customer satisfaction at Jaguar Bus Company.

METHODOLOGY

This study employed a mixed-methods research design, combining quantitative and qualitative approaches to comprehensively examine the impact of online booking systems on operational efficiency and customer satisfaction. The design was appropriate because it allowed triangulation of numerical performance data with stakeholder perspectives and experiences (Creswell & Creswell, 2023).

The study was conducted at Jaguar Bus Company's main terminal in Kisoro District and included passengers using various routes operated by the company. The target population comprised 150 regular customers (those who had traveled at least three times in the past six months), 40 company staff members including ticket clerks, customer service representatives, and drivers, and 10 management personnel including the operations manager, IT coordinator, and finance officers.

Purposive sampling was used to select management and staff respondents based on their direct involvement with the booking system, while simple random sampling was employed to select customer participants from the company's passenger database. This combination ensured representation of diverse stakeholder perspectives while targeting individuals with relevant experience and knowledge.

Data collection employed three primary instruments. First, structured questionnaires with both closed and open-ended questions were administered to customers and staff members, measuring variables including booking convenience, processing time, system reliability, and satisfaction levels using 5-point Likert scales. Second, semi-structured interviews were conducted with management personnel to obtain in-depth insights into implementation experiences, operational changes, and strategic outcomes. Third, documentary analysis examined company records including monthly revenue reports, booking statistics, customer complaints registers, and operational performance metrics for twelve months before and twelve months after system implementation.

Quantitative data were analyzed using SPSS version 26 (Nelson, Christopher, & Milton, 2022). Descriptive statistics (frequencies, percentages, means, and standard deviations) summarized respondent characteristics and variable distributions. Pearson correlation coefficient assessed relationships between online booking system features and outcome variables. Paired t-tests compared pre-implementation and post-implementation performance metrics. Qualitative data from interviews and open-ended questions were transcribed, coded, and analyzed thematically to identify recurring patterns and contextual insights. Ethical considerations included obtaining informed consent from

all participants, ensuring confidentiality and anonymity, and securing permission from Jaguar Bus Company management to access operational records.

RESULTS

The study findings revealed significant positive impacts of online booking systems on both operational efficiency and customer satisfaction at Jaguar Bus Company. The following tables present key quantitative results.

Table 1: Operational Efficiency Indicators Before and After Online Booking System Implementation

Indicator	Before Implementation (Mean)	After Implementation (Mean)	Percentage Change	t-value	p-value
Average ticket processing time (minutes)	8.5	2.3	-73%	12.45	<0.001
Revenue leakage (% of total revenue)	18%	10%	-42%	8.32	<0.001
Seat occupancy rate (%)	68%	87%	+28%	9.87	<0.001
Customer complaints per month	45	18	-60%	7.65	<0.001
Daily booking transactions	120	285	+138%	15.23	<0.001

Source: Primary Data, 2025

Table 1 demonstrated remarkable improvements across all operational efficiency indicators. The reduction in average ticket processing time from 8.5 minutes to 2.3 minutes represented a 73% efficiency gain, indicating that the online system dramatically streamlined the booking process. This efficiency translated directly into reduced customer waiting times and improved staff productivity (F. Christopher et al., 2022). Revenue leakage, which previously stood at 18% of total revenue due to ticket fraud and manual errors, decreased to 10%, representing a 42% improvement. While some leakage persisted due to system circumvention and mobile money transaction charges, the reduction represented significant financial gains for the company. The seat occupancy rate improvement from 68% to 87% (a 28% increase) suggested that the online booking system enhanced capacity utilization through better demand forecasting and reservation management (Julius & Nancy, 2025). The dramatic reduction in customer complaints from 45 to 18 per month (60% decrease) reflected improved service quality and customer experience. Finally, the increase in daily booking transactions from 120 to 285 (138% growth) indicated expanded market reach and customer accessibility through the digital platform.

Table 2: Customer Satisfaction Dimensions

Satisfaction Dimension	Mean Score Before	Mean Score After	Correlation (r)	Significance
Booking convenience	2.8/5.0	4.2/5.0	0.812	p<0.01

Satisfaction Dimension	Mean Score Before	Mean Score After	Correlation (r)	Significance
Payment process	3.1/5.0	4.3/5.0	0.765	p<0.01
Information accessibility	2.9/5.0	4.1/5.0	0.798	p<0.01
Service reliability	3.3/5.0	4.0/5.0	0.701	p<0.01
Overall satisfaction	3.1/5.0	4.2/5.0	0.798	p<0.01

Source: Primary Data, 2025

Table 2 illustrated substantial improvements in customer satisfaction across all measured dimensions. Booking convenience showed the highest improvement, rising from 2.8 to 4.2 (on a 5-point scale), with a strong positive correlation ($r=0.812$)(Nelson et al., 2023). Customers particularly appreciated the ability to book tickets remotely without traveling to physical terminals, selecting preferred seats, and receiving instant booking confirmations via SMS. Payment process satisfaction increased from 3.1 to 4.3, reflecting the convenience of mobile money integration and multiple payment options. Information accessibility improved from 2.9 to 4.1, as customers could easily check bus schedules, route information, and seat availability through the online platform. Service reliability satisfaction increased modestly from 3.3 to 4.0, with some customers still experiencing occasional system downtimes and booking errors.

Table 3: Challenges Experienced with Online Booking System

Challenge	Frequency	Percentage
Internet connectivity issues	57	38%
Limited digital literacy	35	23%
System downtime/technical glitches	28	19%
Mobile money transaction failures	22	15%
Lack of customer support	18	12%

Source: Primary Data, 2025

Table 3 identified persistent challenges despite overall positive outcomes. Internet connectivity issues affected 38% of respondents, particularly in rural areas surrounding Kisoro District where network coverage remained inconsistent. This challenge sometimes forced customers to travel to the terminal for manual bookings, negating the convenience advantage. Limited digital literacy among 23% of respondents, predominantly older passengers and rural customers, created barriers to system adoption and required additional staff assistance. System downtime and technical glitches, reported by 19% of respondents, occasionally disrupted booking processes and eroded customer confidence. Mobile money transaction failures (15%) resulted from network timeouts, insufficient balances, and platform incompatibilities. Inadequate customer support (12%) reflected the need for enhanced help desk services and user guidance materials.

CONCLUSIONS

The study conclusively demonstrated that online booking systems significantly enhanced both operational efficiency and customer satisfaction at Jaguar Bus Company. The digital platform transformed critical business processes, reducing ticket processing time by 73%, decreasing revenue leakage by 42%, and improving seat occupancy rates by 28%. These operational improvements translated into substantial financial benefits and competitive advantages for the company.

Customer satisfaction increased markedly across all measured dimensions, with overall satisfaction rising from 3.1 to 4.2 on a 5-point scale. Customers particularly valued booking convenience, diverse payment options, and real-time information accessibility enabled by the online system. The strong positive correlations between system features and satisfaction indicators confirmed that digital transformation genuinely enhanced customer experience rather than merely shifting service delivery channels.

However, the study also revealed implementation challenges that moderated the system's full potential. Internet connectivity limitations, digital literacy gaps, and occasional technical glitches created access barriers for some customer segments. These challenges highlighted the importance of complementary support systems and inclusive design approaches in technology implementation.

The findings aligned with broader digital transformation trends in Africa's transport sector, confirming that appropriate technology adoption could address traditional operational inefficiencies while meeting evolving customer expectations. For Jaguar Bus Company specifically, the online booking system represented a successful strategic investment that strengthened market positioning and operational sustainability.

RECOMMENDATIONS

The company was advised to invest in reliable backup internet connectivity solutions in order to minimize service disruptions and ensure uninterrupted system operations across all operational areas. This included the adoption of satellite internet services as well as the establishment of contracts with multiple network service providers to reduce dependence on a single connectivity source. Such measures were considered essential for maintaining system stability, especially in remote or underserved areas where network outages were more frequent, thereby enhancing overall operational efficiency and customer confidence in the company's digital platforms.

Management was also encouraged to develop and implement comprehensive digital literacy training programs aimed at improving customers' ability to use the company's digital services effectively. Particular emphasis was placed on older passengers and individuals from rural communities, who were more likely to experience challenges with digital technologies. These training initiatives were recommended to be delivered through structured workshops at transport terminals, complemented by community outreach programs that provided hands-on guidance, demonstrations, and continuous support. By doing so, the company could foster greater inclusivity, reduce user frustration, and promote wider adoption of digital booking systems.

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In addition, it was recommended that the company maintain hybrid booking systems that combined both digital and manual ticketing options. Preserving traditional, face-to-face ticketing methods alongside online and mobile platforms was viewed as a necessary transitional strategy to accommodate customers who faced technological, financial, or accessibility barriers. At the same time, the company was encouraged to gradually promote digital adoption through customer education, incentives, and user-friendly system design, ensuring that no segment of customers was excluded during the digital transformation process.

The enhancement of technical support capacity was further identified as a critical area of focus. The company was advised to establish dedicated customer help desks staffed with trained personnel capable of addressing booking-related challenges promptly and effectively. This support system was recommended to include multilingual user guides and instructional materials to cater to diverse customer groups, as well as a 24-hour telephone support service to provide immediate assistance outside normal operating hours. Strengthening technical support was expected to reduce system-related complaints and improve overall customer satisfaction.

REFERENCES

Creswell, J. W., & Creswell, J. D. (2023). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed.). SAGE Publications.

Kasekende, F., Nakyagaba, L., & Nabisere, A. (2021). Digital transformation in Uganda's service sector: Opportunities and challenges. *East African Journal of Business and Economics*, 3(1), 45-62.

Christopher, F., Moses, N., Enosh Muhindo, M., & Ruth Komunda, T. (2022). Employee Training and Organizational Performance: A Case Study of African College of Commerce and Technology in Kabale District, South Western Uganda. *International Journal of Academic Pedagogical Research*, 6(4), 1–7. www.ijeais.org/ijapr

Christopher, T., Turyasingura, B., University, M., & Alex, I. (2024). *Adoption of Digital Revolution in Government Ministries, Departments, and Agencies (MDAs) In Uganda; Reflection on Uganda Revenue Authority Digital Strategy Integration Approach towards Enhanced Tax Revenue in Post Covid-19 Pandemic*. 3(4), 235–247.

Faridah, N., Kazaara, A. G., & Kazaara, A. I. (2023). *An Evaluation of the Effects of Advertising on Consumer Brand Awareness in an Organization , a Case Study of Mukwano Group of Companies*. 7(3), 206–212.

Jul, A., Prudence, K., & Nancy, M. (2024). *Blockchain Technology in the Financial Services Industry : Opportunities and Challenges , A Case Study of UMEME Limited , Uganda*. 8(8), 261–267.

Julius, A., & Nancy, M. (2025). *The Paradox of Religious Wealth : Examining the Disjuncture Between Teachings and Practices in Religious Leadership*. 9(12), 194–203.

Kaazara, A. G., & Nancy, M. (2025). *The Seventeen-Year Apprenticeship : Over-education and Under- Skilling in the African Economy . A Case Study of Uganda ' s Construction Sector*. 9(12), 294–302.

Kazaara, A. G., & Kazaara, A. I. (2025). *The Concrete Foundations of Learning : Infrastructure , Facilities , and*

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Accepted: 12.02.2026

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- Their Impact on Teaching Quality and Service Delivery in Ugandan Private Universities* . 9(8), 124–131.
- Kazaara, A. G., Nelson, K., & Kazaara, A. I. (2024). *Impact of Artificial Intelligence on Organizational Efficiency and Productivity . A Case Study of Metropolitan International University , Kampala Campus* . 8(8), 254–260.
- Moses, K., Kazaara, A. G., Kazaara, A. I., & Ismail, L. (2023). *External Auditing and the Financial Performance of Marianum Press Limited , Kisubi* . 7(3), 258–266.
- Muhamad, S., Irumba, A., & Bakaaki, P. (2023). *Organizational Culture, Job Satisfaction And Organizational Commitment In Renewable Energy Industry* . 8(6), 146–151.
<https://www.researchgate.net/publication/376650821>
- Nelson, K., Christopher, F., & Milton, N. (2022). *Teach Yourself Spss and Stata* . 6(7), 84–122.
- Nelson, K., Christopher, F., Teddy, A., & Alex, A. (2022). *Customer Care and Sales Volume of Miami Hotel in Kabale District , South Western Uganda* . 6(6), 26–33.
- Nelson, K., Kazaara, A. G., & Kazaara, A. I. (2023). *Teach Yourself E-Views* . 7(3), 124–145.
- Sophie, N., & Crispus, F. (2024). *Social media marketing and its impact on customer purchase intentions of Mukwano manufacturing companies in Uganda* . 8(4), 92–95.
- Liu, Y., Wang, S., & Xiao, J. (2021). The impact of online booking systems on customer loyalty in the transportation industry. *Transportation Research Part E: Logistics and Transportation Review*, 156, 102-118.
- Mutambara, E. (2023). Digital innovation in African transport: Evidence from bus rapid transit systems. *African Journal of Science, Technology, Innovation and Development*, 15(2), 234-248.
- Nampewo, D., Tinyinondi, G., & Kawooya, D. R. (2022). Mobile money adoption and financial inclusion in Uganda's informal sector. *Journal of African Business*, 23(3), 567-584.
- Ndung'u, N., & Signé, L. (2020). The Fourth Industrial Revolution and digitization will transform Africa into a global powerhouse. *Foresight Africa Report*, Brookings Institution.
- Okyere, S., Adipah, S., & Appiah-Kubi, J. (2022). Digitalization and operational efficiency in developing country transport systems. *International Journal of Operations & Production Management*, 42(5), 678-699.
- Sharma, A., & Singh, R. (2023). E-ticketing systems and customer satisfaction: A systematic review. *Journal of Hospitality and Tourism Technology*, 14(1), 89-107.