IMPACTS OF AIRPORT SERVICES EXTERNALIZATION ON CUSTOMER SATISFACTION: A CASE OF ABEID AMANI KARUME INTERNATIONAL AIRPORT (AAKIA) TANZANIA

Masoud Fadhil Abeid

Student, Department of Logistics and Transportation at National Institute of Transport
Dar-es-Salam- Tanzania
powerfazo@gmail.com

Abstract: This *study investigates the impact of airport services externalization on customer satisfaction at Abeid Amani Karume International Airport (AAKIA), Tanzania. Using primary data from 100 respondents collected through structured questionnaires, the research employed descriptive statistics and regression analysis with IBM SPSS version 27. The findings show that both externalized services and service delivery mechanisms significantly influence customer satisfaction, with a strong positive correlation (R = 0.773) explaining 59.8% of the variance (R² = 0.598; Adjusted R² = 0.590) and a low standard error (0.55497). The ANOVA confirmed the model's significance (F = 72.177, p < 0.001). Externalized services (B = 0.612) demonstrated a stronger effect than service delivery mechanisms (B = 0.147), highlighting the importance of privatized services in enhancing passenger experiences. The study concludes that efficient, high-quality externalized services are crucial for improving customer satisfaction at AAKIA. Recommendations include training staff in empathy and responsiveness, establishing feedback channels, and investing in advanced technologies such as automated check-in systems. Additional measures include reducing wait times, modernizing infrastructure, and ensuring consistent service quality through standardized procedures and continuous training. Robust monitoring of customer satisfaction and further research on externalization practices are also suggested to strengthen loyalty and overall passenger experience.*

Keywords: *Airport services, Externalization, Customer satisfaction, Service delivery mechanisms, Service* quality.

I. INTRODUCTION

The externalization of airport services has gained traction globally as a strategy to enhance operational efficiency and improve customer satisfaction, with significant interest in its impact at specific airports such as Abeid Amani Karume International Airport (AAKIA) in Tanzania [1]. Abeid Amani Karume International Airport (AAKIA) served over eight hundred thousand passengers in 2020, benefiting from the private sector's assistance in delivering passenger services. In 2022, the government of Zanzibar extended externalization to additional services related to passenger handling, and passenger terminal operation to private sector (Dnata) aiming to enhance performance and improve customer satisfaction [2].

Later on, Abeid Amani Karume International Airport (AAKIA) Tanzania was designated as the premier airport for facilities serving less than two million passengers in Africa on March 11, 2024. This distinguished recognition was bestowed as part of the yearly Airport Services Quality (ASQ) awards, an initiative by the Airports Council International (ACI) aimed at celebrating exceptional airport performance globally. The evaluation criteria for these accolades are primarily derived from passenger feedback gathered through daily surveys conducted in both departure and arrival areas. These surveys encompass a range of categories, including the provision of exemplary staff services, the seamless airport journey experience, overall airport satisfaction, and the cleanliness of airport facilities [3]. Understanding the impact of externalization on airport services is crucial for achieving customer satisfaction, ensuring sustainability, and enhancing the performance of AAKIA in the aviation sector.

Despite transition to externalized airport management at AAKIA, raises critical questions about its impact on customer satisfaction. While some argue that externalization leads to enhanced services quality and efficiency, others contend that it may prioritize profit over passenger experience, resulting in varied outcomes for customers.

Several studies have examined airport externalization and its implications for customer satisfaction. The study highlighted the general benefits of externalization, including enhanced services quality and operational efficiency [4]. Also, a comparative study conducted related with externalized and non-externalized airports, providing mixed results on customer satisfaction [5]. However, there is limited research focusing specifically on African airports, including AAKIA, highlighting a gap in the literature. However, several theories and models highlight the role of externalization in improving services delivery and achieving customer satisfaction, including:

Agency Theory: According to Agency Theory, private management can align managerial incentives with customer satisfaction objectives, potentially enhancing services quality [6].

Customer Satisfaction Theory: This theory emphasizes the importance of meeting or exceeding customer expectations as a critical determinant of satisfaction [7].

Despite the existing research on airport externalization, there is a noticeable gap in studies focusing on its impact on customer satisfaction at AAKIA. Additionally, there is a need for comprehensive analyses that examine the specific mechanisms through which externalization affects customer experiences in the context of African airports [8].

This study is significant as it aims to address the existing gaps by providing an in-depth analysis of the impact of externalization on customer satisfaction at AAKIA. The findings will offer valuable insights for policymakers, airport authorities, and stakeholders in Tanzania and other similar contexts. This research will contribute to the broader discourse on airport externalization and its implications for services delivery in developing countries.

The purpose of this study was to investigate the impacts of airport services externalization on customer satisfaction at Abeid Amani Karume International Airport in Tanzania. Through a detailed comparative analysis, the study aims to determine whether private management leads to improved services quality, operational efficiency, and overall passenger satisfaction, providing actionable insights for stakeholders in the aviation industry.

II. THEORETICAL REFERENCE

A. Agency Theory

Agency Theory, introduced by Jensen and Meckling and expanded by Panda and Leepsa, explores the relationships between principals (owners) and agents (managers) in organizations, focusing on conflicts arising from differing goals and information asymmetry [9] [6]. The theory emphasizes the need for mechanisms that align agents' interests with those of principals to enhance organizational performance. Agency Theory has applications across various fields such as corporate governance, financial management, and public administration. For instance, Panda and Leepsa examined corporate governance in Indian firms, while Furr and Kathleen studied principal-agent dynamics in different contexts [6] [10].

In the context of identifying externalized services influencing customer satisfaction, Agency Theory posits that externalization can improve services quality and efficiency through aligned incentives. This involves analysing the impact of externalized services at Abeid Amani Karume International Airport on customer satisfaction, suggesting that well-managed services positively influence satisfaction. Furthermore, evaluating the private sector's impact on services delivery involves assessing whether private sector involvement aligns with the airport authorities' goals of customer satisfaction, through effective monitoring and incentives. Measuring customer satisfaction levels examines if incentivized and monitored private services providers meet or exceed customer expectations, thereby determining the effectiveness of externalized services in achieving high customer satisfaction.

B. Grönroos's Services Quality Model

The externalization of airport services is a significant development aimed at improving efficiency, services quality, and customer satisfaction. This literature review utilizes Grönroos's Services Quality Model to examine the objectives of externalized services influencing customer satisfaction, the impacts of externalized services delivery mechanisms on customer satisfaction, and the overall customer satisfaction levels with externalized services at Abeid Amani Karume International Airport (AAKIA). Grönroos's Services Quality Model provides a comprehensive framework for understanding services quality through three dimensions: technical quality, functional quality, and corporate image [11]. This model is particularly relevant for analyzing the effects of services externalization on customer satisfaction at airports.

Technical Quality refers to the outcome of the services, i.e., what the customer receives. At AAKIA, technical quality encompasses the efficiency of security checks, the speed and reliability of baggage handling, and the overall maintenance of airport facilities [11].

Functional Quality concerns the process of services delivery, focusing on how the services is provided. Functional quality at AAKIA includes the behaviour and professionalism of the staff, the clarity of information provided to passengers, and the responsiveness to customer inquiries and complaints [11].

Corporate Image represents the overall perception of the organization held by customers, influenced by marketing, word-of-mouth, and past experiences. AAKIA's corporate image is shaped by its reputation for services quality, its branding efforts, and the consistency of its services delivery [11].

Grönroos's model helps identify specific externalized services that impact customer satisfaction by analysing both technical and functional quality. Studies have shown that externalization can lead to improvements in services efficiency and customer satisfaction. Technical quality improvements, such as advanced security systems and streamlined check-in processes, directly influence customer satisfaction. Functional quality improvements, such as enhanced customer services training for staff, also play a crucial role [11].

Externalized services delivery mechanisms can impact customer satisfaction by altering both the technical and functional aspects of services quality. For instance, outsourcing security and baggage handling to specialized firms can enhance technical quality. Additionally, employing third-party customer services agents can improve functional quality through better training and performance incentives. Grönroos's model underscores the importance of these mechanisms in shaping customer perceptions and satisfaction levels.

Grönroos's model allows for a nuanced examination of customer satisfaction levels by considering the interplay between technical quality, functional quality, and corporate image. Research indicates that successful externalization can lead to higher customer satisfaction levels. This study will measure customer satisfaction at AAKIA by assessing passengers' perceptions of services outcomes, the quality of services delivery processes, and their overall impression of the airport's brand ([11].

Grönroos's Services Quality Model has been widely used in various services industries, including transportation and hospitality, to assess services quality and its impact on customer satisfaction. Its applicability to the airport industry is well-supported. In this study, Grönroos's model is adapted to include specific variables relevant to AAKIA:

• Technical Quality Variables: Efficiency of security checks, reliability of baggage handling, maintenance of facilities, customer services, Check-in process, Retail and dining options.

• Functional Quality Variables: Services reliability, Operation efficiency, Customer services quality, Infrastructure quality, Innovation and technology and Management efficiency.

• Corporate Image Variables: Customer feedback, Services ratings, Repeat usage, Overall satisfaction scores services, Customer expectations, Customer experience.

By applying these variables, this study aims to provide a detailed analysis of how externalized services at AAKIA influence customer satisfaction, guided by the theoretical insights of Grönroos's Services Quality Model ([11].

III. EMPIRICAL REFERENCE

A. *Externalized services influence customer satisfaction*

Empirical evidence consistently highlights the role of service quality dimensions in shaping customer satisfaction. [12] ,where the study used a mixed-method study in Chile's water sector, found that tangibles, reliability, responsiveness, assurance, and empathy strongly influenced   satisfaction, with well-maintained facilities, reliable services, competent staff, and personalized attention as key drivers Similarly, to the study [13] which emphasized facilities maintenance, responsiveness, reliability, and staff competence in a monopoly service context, though their study did not address externalization, leaving a gap for airport specific applications. The study [14], through a mixed-method approach with stratified sampling, reinforced these dimensions, identifying modern facilities, dependable services, prompt issue handling, and courteous staff as critical. However, these studies focused on general services rather than externalized airport operations, overlooking unique aspects such as security and baggage handling. This gap underscores the need for airport-specific methodological adaptations to assess customer satisfaction in externalized service contexts.

B. Externalized services delivery mechanism on customer satisfaction

Empirical evidence highlights how private sector participation and externalization enhance service delivery and customer satisfaction in airports. [15] studying PPP airports in India through mixed methods, found that operational efficiency, modernized infrastructure, consistent service delivery, and advanced technologies such as automated check-ins significantly boosted satisfaction, though contextual differences with Tanzanian airports suggest the need for methodological adaptations. [16] using Data Envelopment Analysis to compare Spanish and Turkish airports, demonstrated that externalized airports achieved higher efficiency and satisfaction through better resource management, reliable services, modern facilities, and innovative offerings, though the study did not directly examine customer satisfaction or airport-specific factors such as security. [8], in an international comparative study, similarly concluded that externalization improves satisfaction via operational efficiency, shorter wait times, modern infrastructure, staff training, and expanded amenities, but noted gaps in applying these findings to context-specific cases like Tanzanian airports. Collectively, these studies affirm that externalization enhances service quality and customer satisfaction, while underscoring the need for context-specific adaptations.

C. Customer satisfaction levels on externalized services

Empirical evidence from the aviation sector further highlights the role of externalization in shaping customer satisfaction. [17] analysing Google reviews through text mining and sentiment analysis, found that satisfaction in privately managed airports was driven by staff responsiveness, facility cleanliness, efficient security and baggage processes, clear navigation, and the availability of retail and dining options, though the study lacked direct comparisons with publicly managed airports. [18] using a mixed-methods approach in the airline industry, showed that satisfaction was influenced by reliable scheduling, in-flight comfort, efficient baggage handling, staff professionalism, and innovative amenities such as Wi-Fi, yet called for more sector-specific and comparative analyses between public and private management. Similarly, [19] applying PLS-SEM to Malaysia Airlines, demonstrated that reliability, responsiveness, assurance, and empathy significantly influenced satisfaction, with staff professionalism, in-flight services, and perceptions of safety being key determinants, though limited generalizability restricted broader sectoral insights. Collectively, these studies confirm that both airport and airline externalization enhance customer satisfaction through efficiency, modernization, and staff competence, while highlighting the need for comparative, context-specific, and longitudinal analyses.

IV. CONCEPTUAL FRAMEWORK

A conceptual framework is a theoretical structure that provides a foundation for understanding and analysing a phenomenon or problem within a particular context. It consists of interconnected concepts, variables, and propositions that help to guide research and analysis [20]. In this conceptual framework, the central focus is on the relationship between externalization and customer satisfaction.

A. Operation of the variables

1) **Externalized Services:**
   a. Operational Definition: Services managed by private entities within the airport.
   b. Measurement: Identification and categorization of services such as check-in, baggage handling, etc.

2) **Services Delivery Mechanisms:**
   a. Operational Definition: The methods and processes used to deliver services to customers, influenced by private sector management.
   b. Measurement: Assessment of operational efficiency, infrastructure quality, services reliability, customer services quality, and innovation.

3) **Customer Satisfaction level:**
   a. Operational Definition: The degree to which passengers are satisfied with the airport services provided by private entities.
   b. Measurement: Analysis of customer feedback, services ratings, overall satisfaction scores, and repeat usage.

B. Relationships of variables

   a.   Services Delivery Mechanisms → Customer Satisfaction: Measuring the direct effect of services delivery quality on customer satisfaction levels.

   b.   Externalized Services → Customer Satisfaction: Identifying which specific externalized services have the most significant impact on overall customer satisfaction. (Size 10 & Normal) An easy way to comply with the conference paper formatting requirements is to use this document as a template and simply type your text into it.
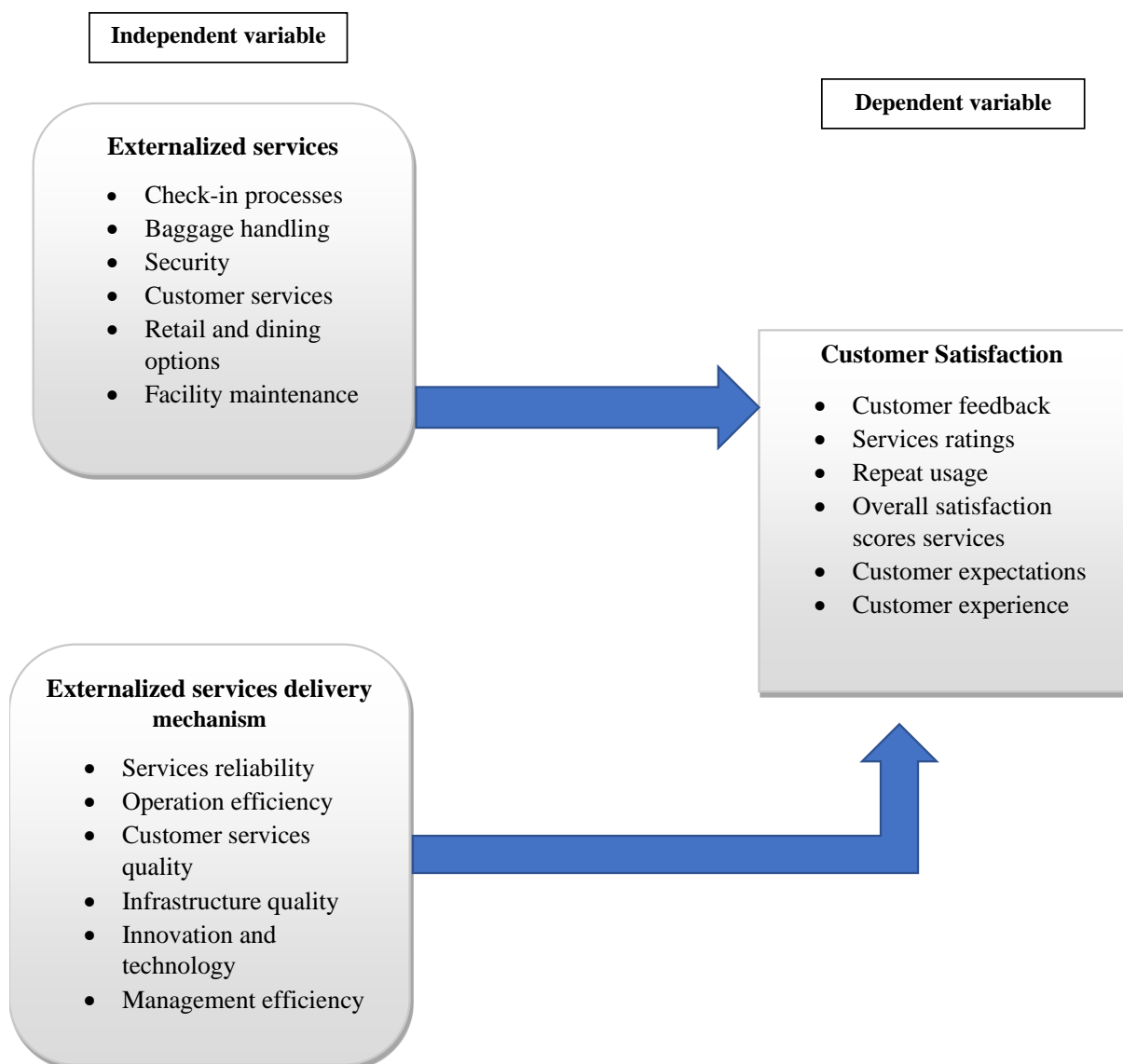

Figure. 1: Conceptual Framework

Source: Adopted from Literature Review, 2025

V. METHODS

This research adopted a positivist philosophy, seeking to discover objective truths about the link between services externalization and customer satisfaction. Positivism focused on using empirical evidence and systematic observation to produce knowledge that can be verified and replicated. This approach aligns with the study's objective to provide a comprehensive understanding on services externalization and customer satisfaction.

The area of this study is Abeid Amani Karume International Airport (AAKIA), focusing on its operations in Zanzibar, Tanzania. AAKIA is a strategic destination among airports in Tanzania, holding significant importance due to the range of services it provides in the region.

The sample size for the study was determined by taking into account practical considerations, including the time available for fieldwork and the resources required for data collection and analysis. Ultimately, a total of 100 respondents were selected to

participate in the quantitative survey, providing sufficient data to generate meaningful insights while remaining manageable within the study's logistical limitations.

Random sampling techniques were used to select study participants, ensuring a representative sample from the various flights and service provisions at AAKIA. This approach included passengers from different backgrounds, allowing the study to capture diverse perspectives on the quality and effectiveness of the services provided. Due so, random sampling method was employed to ensure fair and unbiased representation of passengers from the various flights operating at AAKIA, thereby enhancing the reliability and generalizability of the study's findings.

VI.   RESULT AND DISCUSSION

A. Results

1) Demographic Profile of Respondents

This study examined the demographic characteristics of the 100 respondents, focusing on gender, age, and education level to capture diverse profiles for comprehensive analysis. The gender distribution shows that 46 respondents (46.0%) were male, while 54 respondents (54.0%) were female, indicating a slightly higher representation of females in the sample. These demographic insights provide important context for interpreting the study findings, as they highlight the composition and characteristics of the population under investigation

The age distribution of the 100 respondents reveals a diverse representation across different age groups. Specifically, 14 respondents (14.0%) were below 25 years, 39 respondents (39.0%) were aged 25–34, and 22 respondents (22.0%) fell within the 35–44 age range. Furthermore, 18 respondents (18.0%) were aged 45–54, while only 7 respondents (7.0%) were 55 years and above. These results indicate that the largest proportion of respondents belonged to the 25–34 age group, highlighting a youthful majority, whereas the smallest proportion was those aged 55 and above, suggesting limited representation from older individuals in the sample.

The educational background of the 100 respondents shows varying levels of attainment. Among them, 8 respondents (8.0%) held a Certificate, 12 respondents (12.0%) possessed a Diploma, and 36 respondents (36.0%) had a degree qualification. The largest group consisted of 38 respondents (38.0%) with a Master's Degree, while 6 respondents (6.0%) reported having other forms of education. These findings indicate that the majority of respondents were highly educated, with Master's and Degree holders making up the largest share, whereas those with other educational qualifications were the least represented in the sample.

Generally, the demographic analysis of the 100 respondents demonstrates a well-balanced and diverse sample in terms of gender, age, and education level. The results reveal a slightly higher representation of females, a youthful majority concentrated in the 25–34 age group, and a predominantly well-educated population, with most respondents holding either a degree or a Master's qualification. These demographic characteristics provide valuable context for understanding the perspectives captured in the study, ensuring that the findings are grounded in the varied experiences and profiles of the participants.

Demographic Information

Table I: Distribution of Respondents by Gender

	N	%
Male	46	46.0%
Female	54	54.0%

Source: Field Data, 2025

Table II: Distribution of Respondents by Age

Details	N	%
less than 25	14	14.0%
25-34	39	39.0%
35-44	22	22.0%
45-54	18	18.0%
55 and above	7	7.0%

Source: Field Data, 2025

Table III: Educational Distribution

Details	N	%
Certificate	8	8.0%
Diploma	12	12.0%
Degree	36	36.0%
Master's Degree	38	38.0%
Other	6	6.0%

Source: Field Data, 2025

2) Descriptive Statistics

a) *Externalized services influence customer satisfaction*

   The descriptive analysis of externalized services at Abeid Amani Karume International Airport (AAKIA) reveals generally positive passenger perceptions across multiple service areas. Externalized check-in processes and security services achieved the highest mean ratings (4.18 each), reflecting strong agreement on their efficiency, timeliness, and professionalism. Baggage handling and customer service desks also performed well (means = 4.12 each), though with moderate variability in responses, suggesting some differing views on reliability and responsiveness. Facility maintenance was rated positively (mean = 3.98), while retail and dining services, though satisfactory (mean = 3.84), received lower ratings with greater variability, pointing to more mixed passenger experiences in this area.

   Overall, these results demonstrate that externalization has effectively enhanced core operational services at AAKIA, with most ratings above 4.0. The slightly weaker performance in retail and dining services highlights an important area for improvement to further enrich passenger experiences.

Table IV: Externalized services influence customer satisfaction

Details	N	Mean	Std. Deviation
The externalized check-in processes at AAKIA are efficient and timely.	100	4.1800	1.03845
Baggage handling services provided by private companies at AAKIA are reliable.	100	4.1200	1.17448
The security services managed by private firms at AAKIA are thorough and professional.	100	4.1800	1.05773
Customer services desks operated by private entities at AAKIA are helpful	100	4.1200	1.07572

Details	N	Mean	Std. Deviation
and responsive.			
The retail and dining options offered by private vendors at AAKIA are diverse and satisfactory.	100	3.8400	1.21206
The facility maintenance provided by private contractors at AAKIA is of high quality.	100	3.9800	1.06344
Valid N (listwise)	100		

Source: Field Data, 2025

b)   Externalized services delivery mechanisms on customer satisfaction

The analysis of passengers' perceptions of externalized services at Abeid Amani Karume International Airport (AAKIA) highlights a generally positive assessment of service reliability, efficiency, and modernization. Respondents rated service consistency and dependability highly (mean = 4.12; SD = 0.935), reflecting strong confidence in private entities' ability to deliver reliable services. Infrastructure modernization and maintenance by private contractors received the highest evaluation (mean = 4.50), although the unusually large standard deviation (SD = 5.225) suggests possible data irregularities or the influence of outliers.

Improvements in reducing wait times (mean = 3.89), enhancing operational efficiency (mean = 3.88), and adopting new technologies (mean = 3.79) were acknowledged positively but with moderate variability, indicating that not all passengers experienced these benefits to the same extent. The lowest ratings were recorded for improvements in customer service quality (mean = 3.77; SD = 1.262), showing both lower satisfaction and greater divergence in opinions compared to other service areas.

Overall, the findings suggest that while externalization has been effective in enhancing infrastructure, maintaining consistency, and supporting efficiency at AAKIA, more effort is required to strengthen customer-facing services and ensure that technological innovations deliver uniformly positive passenger experiences

Table IV: Externalized services delivery mechanisms on customer satisfaction

Details	N	Mean	Std. Deviation
The services provided by private entities at AAKIA are consistent and dependable.	100	4.1200	.93506
Externalized services at AAKIA have reduced wait times for passengers	100	3.8900	1.14499
Private sector management has improved the overall efficiency of airport operations at AAKIA.	100	3.8800	1.13956
The quality of customer services at AAKIA has improved with the involvement of private companies.	100	3.7700	1.26215
The infrastructure at AAKIA has been modernized and well-maintained by private contractors	100	4.5000	5.22523
The adoption of new technologies by private firms at AAKIA has enhanced my travel experience.	100	3.7900	1.18317
Valid N (listwise)	100		

Source: Field Data, 2025

c)   Customer Satisfaction levels on externalized services

The descriptive analysis of customer satisfaction at Abeid Amani Karume International Airport (AAKIA) demonstrates a generally positive perception of externalized services across multiple dimensions. Respondents expressed satisfaction with feedback mechanisms (mean = 4.11; SD = 1.00), highlighting that most passengers appreciate the systems in place for addressing concerns, though some variability in effectiveness was noted. The quality of externalized services received a similarly favorable rating (mean = 4.08; SD = 1.05), reflecting confidence in service standards, albeit with some differing views.

The strongest ratings were recorded for overall passenger experience (mean = 4.30; SD = 0.97) and likelihood of using AAKIA again for future travel (mean = 4.38; SD = 0.89). These results indicate high levels of satisfaction and strong customer loyalty, supported by consistent responses across participants. Additionally,

externalized services were perceived to meet customer expectations (mean = 4.18; SD = 0.95), reinforcing the positive impact of private-sector service provision. Overall satisfaction with externalized services was also rated positively (mean = 4.12), though with slightly higher variability (SD = 1.16), suggesting that individual experiences differ in some cases.

Taken together, these findings suggest that passengers view AAKIA's externalized services favorably, particularly in relation to overall experience and loyalty, which point to a high level of customer satisfaction. However, variability in feedback and quality-related perceptions indicates room for improvement in ensuring consistency across all service areas.

Table VI: Customer Satisfaction levels on externalized services

Details	N	Mean	Std. Deviation
I am satisfied with the feedback mechanisms in place at AAKIA for addressing customer concerns.	100	4.1100	1.00398
I would rate the externalized services at AAKIA as high quality.	100	4.0800	1.05102
AAKIA provides a positive experience for passengers from check-in to departure.	100	4.3000	.96922
The externalized services at AAKIA meet my expectations as a customer.	100	4.1800	.94687
Overall, I am satisfied with the services provided by private companies at AAKIA.	100	4.1200	1.15715
I would choose to use AAKIA again for my future travels.	100	4.3800	.88512
Valid N (listwise)	100		

B. Relationships of variables

1) Externalized Services ➔ Customer Satisfaction

This regression identifies the impact of specific externalized services on overall customer satisfaction, Specifically, it explores how externalized services influence overall customer satisfaction.

a. Model Summary

The model summary indicates that the model explains 56.6% of the variance in the dependent variable, as shown by the R-squared value of 0.566. The adjusted R-squared value of 0.562 accounts for the number of predictors, suggesting a good fit. The standard error of the estimate is 0.57381, reflecting the average deviation of observed values from the predicted values. Overall, the model, which includes externalized services as the predictor, provides a strong explanation of the variability in the dependent variable.

Table VII: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.752[a]	.566	.562	.57381

Source: Output based on Field Data (2025)
   a)   Predictors: (Constant), Externalized services

b. Analysis of Variance (ANOVA)

The ANOVA results demonstrate that the regression model significantly predicts customer satisfaction at AAKIA. The high F-value of 127.771 with a corresponding p-value of 0.000 confirms the model's strong statistical significance, indicating that externalized services play a critical role in explaining variations in customer satisfaction. The regression sums of squares (42.069) compared to the residual sum of squares (32.267) further highlights that the model accounts for a substantial proportion of the variance. These findings underscore the model's effectiveness in capturing the relationship between externalized services and customer satisfaction, providing robust empirical support for the importance of externalization in enhancing passenger experiences.

Table VIII: Analysis of variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.069	1	42.069	127.771	.000[b]
	Residual	32.267	98	.329		
	Total	74.336	99			

Source: Output based on Field Data (2025)
a)   Dependent Variable: customer satisfaction
    Predictors: (Constant), Externalized services

c.   *Coefficients*

 The coefficient analysis reveals that externalized services exert a significant positive influence on customer satisfaction at AAKIA. While the constant term is 1.184, the critical finding lies in the coefficient for externalized services (B = 0.740), which, supported by a standardized beta of 0.752, demonstrates a strong and positive relationship. The high t-value of 11.304 and the p-value of 0.000 confirm the statistical significance of this effect, indicating that improvements in externalized services directly enhance customer satisfaction. These results highlight the pivotal role of externalized services in shaping passenger experiences and affirm their importance in airport service delivery.

Table IX: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.184	.273		4.343	.000
	Externalized services	.740	.065	.752	11.304	.000

Source: SPSS Output based on Field Data (2025)
a) Dependent Variable: customer satisfaction

2)   Services Delivery Mechanisms → Customer Satisfaction

 This regression measures the direct effect of the quality-of-services delivery on customer satisfaction, Specifically, it explores how services delivery mechanisms influence the efficiency and overall customer satisfaction.

a.   Model Summary

 The model summary reveals that approximately 34.5% of the variance in service delivery impacts is explained by the predictors, as indicated by the R-squared value of 0.345. The adjusted R-squared value of 0.338, which closely aligns with the R-squared, confirms the model's stability and reliability. Additionally, the standard error of the estimate (0.70504) reflects the average deviation between observed and predicted values, indicating a reasonable level of accuracy in the model's predictions. Overall, the results suggest that the model provides a moderate yet meaningful explanation of the factors influencing service delivery mechanisms.

Table 1 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.587[a]	.345	.338	.70504

Source: SPSS Output based on Field Data (2025)
a)   Predictors: (Constant), services delivery mechanisms

b.   Analysis of Variance (ANOVA)

The ANOVA results demonstrate that the regression model significantly predicts customer satisfaction at AAKIA. With an F-value of 51.548 and a p-value of 0.000, the model is statistically significant, confirming that service delivery mechanisms meaningfully contribute to variations in customer satisfaction. The regression sums of squares (25.623) relative to the residual sum of squares (48.713) indicates that the model accounts for a substantial portion of the variance in satisfaction levels. These findings highlight the effectiveness of the model in explaining differences in customer satisfaction and underscore the importance of service delivery mechanisms in shaping the passenger experiences.

Table 2 Analysis of variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25.623	1	25.623	51.548	.000[b]
	Residual	48.713	98	.497		
	Total	74.336	99			

Source: Output based on Field Data (2025)
  a) Dependent Variable: customer satisfaction
  b) Predictors: (Constant), services delivery mechanism

c. Coefficients

The coefficient analysis indicates that service delivery mechanisms have a significant positive influence on customer satisfaction at AAKIA. While the constant term is 2.643, the key result lies in the coefficient for service delivery mechanisms (B = 0.389), supported by a standardized beta of 0.587. This demonstrates a strong and positive relationship between service delivery and satisfaction. The high t-value (7.180) and the p-value (0.000) further confirm the statistical significance of this effect, suggesting that enhancements in service delivery mechanisms are strongly associated with higher levels of customer satisfaction.

Table 12 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.643	.227		11.620	.000
	Services delivery mechanisms	.389	.054	.587	7.180	.000

Source: Output based on Field Data (2025)
a) Dependent variable: customer satisfaction

3. Multiple Regression Model Summary

Multiple regression analysis was conducted to examine the impact of externalized services and service delivery mechanisms on customer satisfaction. The results of the analysis are summarized as follows

a. Model summary

The model summary highlights the strong performance and fits of the regression model. The correlation coefficient (R = 0.773) indicates a strong positive relationship between the predictors (service delivery mechanisms and externalized services) and customer satisfaction. The R² value of 0.598 shows that the model explains approximately 59.8% of the variance in customer satisfaction, while the adjusted R² of 0.590 provides a slightly more conservative yet consistent estimate of explanatory power. The standard error of the estimate (0.55497) confirms the model's accuracy, reflecting relatively small deviations between observed and predicted values. Overall, these results demonstrate that the predictors significantly influence customer satisfaction, with the model offering a robust and well-fitted explanation of nearly 60% of the variance.

Table 13 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.773[a]	.598	.590	.55497

Source: SPSS Output based on Field Data (2025)
   a)   Predictors: (Constant), services delivery mechanisms, Externalized services

b.   Analysis of variance (ANOVA)

   The ANOVA results demonstrate that the regression model significantly predicts customer satisfaction. The Regression Sum of Squares (44.461) reflects the variation explained by the model, while the Residual Sum of Squares (29.876) represents the unexplained variation, out of a total of 74.336. With degrees of freedom of 2 and 97 for the regression and residuals, respectively, the corresponding Mean Squares are 22.230 and 0.308. The resulting F-statistic of 72.177 indicates that the variance explained by the model is substantially greater than the variance left unexplained. The associated p-value (0.000) confirms that this effect is highly statistically significant, providing strong evidence that service delivery mechanisms and externalized services jointly account for a substantial proportion of the variance in customer satisfaction.

Table 4.14 Analysis of variance (ANOVA)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	44.461	2	22.230	72.177	.000[b]
	Residual	29.876	97	.308		
	Total	74.336	99			

Source: SPSS Output based on Field Data (2024)

a. Dependent Variable: customer satisfaction

b. Predictors: (Constant), services delivery mechanisms, Externalized services

c.   Coefficients

   The coefficients analysis highlights the individual contributions of externalized services and service delivery mechanisms to customer satisfaction. The constant term (B = 1.119) represents the baseline level of customer satisfaction when both predictors are absent. The unstandardized coefficient for externalized services is 0.612, indicating that a one-unit increase in externalized services corresponds to a 0.612-unit increase in customer satisfaction, holding other variables constant. Likewise, the coefficient for service delivery mechanisms is 0.147, suggesting that improvements in these mechanisms lead to a 0.147-unit increase in customer satisfaction when controlling for externalized services. These findings underscore the positive and statistically meaningful influence of both predictors, with externalized services demonstrating a stronger effect on enhancing customer satisfaction.

Table 15 Coefficients

Coefficients						
		Unstandardized Coefficients		Standardized Coefficients		
	Model	B	Std. Error	Beta	t	Sig.
1	(Constant)	1.119	.265		4.228	.000
	Externalized services	.612	.078	.622	7.821	.000
	Services delivery mechanisms	.147	.053	.222	2.786	.006

a. Dependent Variable: customer satisfaction
Source: Field Data, 2025

B.   DISCUSSIONS

1.   Externalized services influence customer satisfaction

The primary objective of this study was to examine the influence of externalized services on customer satisfaction at AAKIA. The regression results revealed a strong positive relationship, with an unstandardized coefficient of 0.740 and a highly significant p-value of 0.000, indicating that each unit increase in externalized services leads to a 0.740-unit increase in customer satisfaction. This finding is consistent with [12] who, using the SERVQUAL model in Chile's water services sector, identified tangibles, reliability, responsiveness, assurance, and empathy as key drivers of satisfaction. Although their focus was on utilities, the parallels reinforce that externalization strengthens these dimensions in airport services as well. [13] examining service quality in a monopoly service provider context, also emphasized facilities maintenance, reliability, responsiveness, competence, and personalized attention, but without addressing the role of externalization an important gap that this study helps to fill. [14] similarly demonstrated that modern facilities, reliable services, timely responsiveness, and staff competence significantly influence satisfaction across service industries. The current study aligns with these findings while extending them to airport-specific contexts, particularly highlighting the critical role of externalized services in security, safety, and baggage handling.

Taken together, the results confirm that externalization enhances both general service quality dimensions and sector-specific performance factors, thereby strengthening overall customer satisfaction. However, further research is needed to examine demographic variations and comparative analyses across different airports and regions to deepen understanding of externalization's broader implications.

2. Services delivery mechanism on customer satisfaction

The findings reveal a significant positive relationship between services delivery impacts and customer satisfaction, with a coefficient of 0.389 (p = 0.000), confirming that improved service delivery enhances satisfaction. These results are consistent with [15], who found that private sector involvement in Indian PPP airports improved efficiency, reduced wait times, and modernized infrastructure, thereby increasing customer satisfaction. Similarly, [16] demonstrated that externalization in Spanish and Turkish airports boosted efficiency and resource management, highlighting the importance of reliable service delivery and modern infrastructure. [8] further corroborated these insights through an international analysis, demonstrating that improved management practices, the adoption of advanced technologies, and investment in modern facilities significantly enhance customer satisfaction.

In conclusion, the regression analysis underscores that service delivery impacts significantly drive customer satisfaction in Tanzanian airports, aligning with international evidence ([15] [16] [8]). However, contextual differences such as local infrastructure capacity, management practices, and customer expectations necessitate cautious generalization. Overall, advanced technologies, efficient management, and modernized infrastructure emerge as common determinants of customer satisfaction across diverse settings.

3. Customer satisfaction level on externalized services

The findings show that externalized services significantly enhance customer satisfaction, with a coefficient of 0.740, a beta value of 0.752 (indicating 75.2% contribution), and a highly significant p-value of 0.000. This demonstrates a high level of customer satisfaction with services offered by private entities. These results are consistent with [17] who found that customer satisfaction in privately managed airports is shaped by staff responsiveness, modern and clean facilities, efficient security processing, and diverse retail and dining options. Similarly, [18] highlighted reliability, baggage handling, staff professionalism, and innovative services as key drivers of satisfaction in the airline sector, further supporting the current findings. [19] also confirmed that service quality dimensions such as reliability, responsiveness, assurance, and empathy significantly influence satisfaction, underscoring the role of professional staff and high-quality services.

In conclusion, the regression analysis confirms that externalized services strongly and positively influence customer satisfaction, a finding reinforced by evidence from previous studies ([18] [17] [19]). Across different contexts, staff professionalism, efficient service delivery, and modern facilities consistently emerge as critical determinants of satisfaction. However, the literature also highlights the need for more sector-specific and comparative analyses to fully capture the implications of externalization on customer satisfaction.

VII.   CONCLUSIONS

This study demonstrates that externalized services at Abeid Amani Karume International Airport (AAKIA) significantly enhance customer satisfaction. The analysis shows strong positive relationships between privatized services, service delivery mechanisms, and satisfaction levels, underscoring the importance of efficient, high-

quality externalized services. Demographic insights particularly the predominance of a youthful and female customer base and a highly educated workforce high light the need for tailored services and professional staff to sustain positive customer experiences. The findings reinforce existing literature by confirming that externalization improves service quality, operational efficiency, and customer satisfaction. Key recommendations include strengthening customer service and security through staff training in empathy and responsiveness, investing in advanced technologies for streamlined processes, modernizing infrastructure, and implementing effective feedback systems. Regular monitoring and loyalty-focused initiatives are also critical for maintaining high satisfaction levels. Despite its contributions, the study acknowledges limitations related to sample size, reliance on self-reported data, and its cross-sectional design. Future research should examine demographic-specific service preferences, long-term impacts of externalization, and comparative analyses across airports and regions. Such studies would provide deeper insights into how externalization practices influence service quality and satisfaction in varying contexts.

VIII.   ACKNOWLEDGMENT (Size 10 & Bold)

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