Print ISSN: 2008-448X
Online ISSN: 2538-3310

International Journal of Business and Development Studies

University of Sistan and Baluchestan

Homepage: https://ijbds.usb.ac.ir

Electronic Payments and the Performance of Tour Operators' Supply Chain in Tanzania Tourism Industry

Boniface Emmanuel Mwalukasa[1]

[1]Lecturer, Department of Procurement and Supply Management, College of Business Education, Dar es Salaam, Tanzania. E-mail: Boniface.mwalukasa@cbe.ac.tz

ARTICLE INFO

Article type:
Research

Article history
Received: 21.05.2023
Accepted: 25.12.2023

Keywords:
Electronic Payments;
Tour Operators;
Perceived security;
Regulatory framework;
Supply chain performance.

Abstract:
The number of international visitors in Tanzania has consistently remained around one million since 2012. The current study aimed to investigate the effects of electronic payment in enhancing financial flow on the performance of tour operators' supply chains, guided by the Technology Acceptance Model. A convergent parallel mixed-method design was employed using a sampling frame comprised of 543 tour operators. A sample of 230 respondents was selected using multi-stage sampling. Primary data were collected using a self-administered structured questionnaire and an interview guide. Quantitative data were analysed using descriptive statistics to compute percentages, means of respondents' answers, and cross-tabulations. Inferential statistics employing Structural Equation Modeling was applied to test hypotheses through IBM SPSS Amos version 20. Qualitative data were thematically analysed using NVivo version 20. The findings revealed that electronic payment positively and significantly influenced tour operators' supply chain performance. The results of the Structural Equation Modeling using three indicators namely, perceived security, transaction procedures, and regulatory framework, indicate that electronic payment directly influenced tour operators' supply chain by increasing sales, Return on Assets, and profit. The study recommends that both the government and tour operators invest in modern electronic payment technologies to influence consumers' purchase decisions, thereby increasing consumers' spending. Strategic efforts and collaboration between stakeholders, including government bodies, industry regulators, and tour operators, are essential to create a secure, reliable, and trustworthy environment for the success of electronic payment systems usage.

Cite this article: Boniface Emmanuel Mwalukasa (2023) Electronic Payments and the Performance of Tour Operators' Supply Chain in Tanzania Tourism Industry. *International Journal Of Business and Development Studies*, 15 (2), 257-279. DOI: 10.22111/IJBDS.2024.48351.2103.

© The Author(s).
Publisher: University of Sistan and Baluchestan

1. Introduction

The tour operators' supply chain is a complex network of stakeholders involved in organizing and delivering travel packages to customers in the tourism industry including hotels, airlines, transportation companies, and activity providers (1). Tour operators play a crucial role in linking demand and supply, promoting, and distributing products, and facilitating information sharing, and financial flow to provide, excellent customer service to satisfy customers (2,3). The electronic payment system plays a critical role in the economy as a channel for financial resource flow, by connecting firms with suppliers, customers, and banks conveniently, and affordably. The popularity of the electronic payment system continues to increase worldwide as many payment systems have been introduced to make the exchange of money easier (4).

According to WEF (2018), electronic payment system transactions can be conducted in different economic categories such as consumer-to-consumer (C2C), Consumer-to-business (C2B), business-to-business (B2B), and business-to-consumer (B2C). Electronic payment systems offer different electronic payment opportunities and services in the tourism industry including the use of accounts-based payment instruments such as credit and debit cards, e-wallets, mobile payments, and Internet banking (WEF, 2018). In the tourism industry, the electronic payment system improves customer experience by enabling potential customers to pay for their visit in advance, in their currency, and choose their method of payment. Also, the mobile payment method enhances visitors' experience by providing an easy and flexible way to book and pay for excursions safely, increasing speed in transaction processing, lower handling charges, and convenience of payment (Laura and Aurora, 2019). In addition payments and collections made electronically can be easily verified by the public administration and reduce the risk of tax fraud (7,8).

electronic payment systems can significantly improve the financial flow in the tour operators' supply chain by streamlining the payment process, customer satisfaction, reducing errors, and providing complete visibility and transparency, leading to improved supplier relationships, reduced costs, enhanced security, support for remote work environments, and improved cash flow and profitability (9). Also, reliable WiFi to facilitate the mobile payment process and communication in travellers' native languages are key to user satisfaction (7). Thus, service providers should attract the use of electronic payment services by developing systems that are easier to interact with and provide appropriate financial consumer protection frameworks to increase trust in the system (5).

However, perceived security, mobile payment knowledge, and interpersonal influence and trust are the key factors that determine the use of an electronic payment system (5,10,11). Further, the WEF report adds that an electronic payment system is based on the transfer and storage of data that can be hacked if not adequately protected (5). Technical protection and experience are the

determinants of perceived security and trust (12). In Addition, factors such as low level of trust in online transaction due to legal framework not providing sufficient protection to create trust in electronic payment system, are the barriers to e-payment usage (9,13). Therefore, customers and suppliers of tourism products will be able to engage in electronic payment if they know that their rights and obligations will be legally enforced (13).

Knowing the influence of electronic payment on performance in the Tanzania economy, the Tanzanian Government has made efforts to improve ICT infrastructures such as the National Information and Communication Technology Broadband Backbone (NICTBB), and two international submarine cables (15,16). Despite these efforts A study by the International Exit Survey Report (17) found that cash payment is the main payment method by visitors in Tanzania as 87.7% of the interviewed visitors settled their bills in cash, 11.2% by credit card, 0.8% used mobile money and 0.2% used other methods. The current study aims to address the gap between the acknowledged advantages of utilizing electronic payment methods and the obstacles hindering their adoption in the tourism industry.

Specific objectives

a) Assess the extent to which tour operators within the Tanzanian tourism sector currently utilize electronic payment systems.
b) Analyse challenges to the adoption of electronic payment systems in Tanzania.
c) Examine the effects of electronic payment system usage and performance of tour operators in Tanzania.

2. Literature review

Literature Review

2.1 Conceptual definition of terms

2.1.1 Tour Operators

According to Bennett and Schoeman (2005), tour operators are intermediaries who organize and put together holiday packages such as arranging travel services to and from the destination; car hire excursion; transport through road, rail, air, and sea; accommodation bookings either in the hotels, guest houses, and apartments. Tour operators play a crucial role in promoting, distributing products, and facilitating information sharing in the tourism supply chain.

2.1.2 Tour Operators Performance

Performance measurement refers to the process of measuring the efficiency and effectiveness of tour operators (Neely et al., 2005). Measurement of performance provides important information to allow managers to monitor progress in terms of profit, market share concerning other firms in the same industry, and identify problems. Profit is the ultimate output of the company and it measures the

efficiency of the company in generating profits (Pandey, 2015). Studies by Sandvik et al (2014), Aliabadi et al (2013), and Liu et al (2020) found that Return on Assets (ROA) is the most relevant financial measure to assess company performance as it captures the fundamentals of business performance holistically by looking at both income statement performance and the assets required to run a business. Moses (2015 and Vij (2016) stated that the scale used to measure perceived firm performance positively correlates and has a strong association with objective performance measures such as financial indicators. Therefore, the current study is based on ROA, increase in sales, and profitability to investigate the performance of tour operators.

2.1.3 Tour Operators Supply Chain

The supply chain of tour operators involves the management of relationships and processes to ensure a smooth flow of tourism products and services. Electronic payment systems play a crucial role in facilitating financial transactions within this supply chain involving various entities such as local operators, hospitality companies, and online travel agencies using electronic payment for booking using websites or mobile apps and purchasing tourism products and services (19).

2.1.4 Perceived Security

The perception of customers towards vulnerabilities can be negatively influenced by the lack of sufficient security protocols, affecting trust in the payment system (20). Tourists with more negative information or experience with cyber-fraud incidents, will likely not engage in e-payment transactions (21). Need to implement technical protection measures to prevent fraudulent activities and protect sensitive consumer data (12).

Technical protection elements include; encryption for securing data during transmission, authentication to verify user identities, authorization to grant specific permissions, access control to restrict unauthorized access, and firewall and intrusion detection systems for monitoring and blocking malicious activities. Others include tokenization to convert sensitive data into non-sensitive equivalents for storage and transmission purposes, two-factor authentication requiring two forms of identification to verify a user's identity, and SSL/TLS for encrypted server-client connections (8).

2.1.5 Transaction Procedures

Transaction procedures in electronic payment refer to the steps and processes involved in the exchange of funds between payer and payee in the digital environment (22). Users can adopt e-payment systems if they are familiar with the process, and Graphical User Interface. Challenging procedures will lead tourists to abandon the e-payment method (21), Transaction procedures include a transparent transaction history and comprehensive audit trails, promoting accountability and facilitating dispute resolution, provide confirmation notifications detailing for essential transaction information, with authentication through methods like passwords and biometrics for enhanced security (23).

Timely processing of transactions is crucial in meeting user expectations and business requirements. Additionally, strong access control measures ensure only authorized individuals can access and modify transactional data, further enhancing security (22,24).

2.1.6 Regulatory environment

The regulatory framework and policies can affect user trust and acceptance of the e-payment systems. Maximizing the opportunities that electronic payment systems can bring to an economy requires regulations to catch up with technology. Different countries need not have different regulatory policies when it comes to electronic payment, needs to have a system that would work best for international travellers worldwide (7).

2.2 Theoretical Literature Review

2.2.1 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), initially presented by (25) is one of the models created to evaluate elements affecting the adoption and use of technology. TAM offers a theoretical foundation to understand the elements that affect acceptance in organizations (26). TAM posits that perceived usefulness and perceived ease of use influence users' intentions to use a technology, which in turn affects actual usage. In the current study, the perceived usefulness of electronic payment systems can be linked to the ability to improve processes, reduce errors, provide transparency, enhance security, and support remote work. Perceived ease of use could relate to how user-friendly and accessible the electronic payment systems are. Several studies (27,28) These studies justify using the TAM in the current study as it has been successfully applied to understand technology usage in the tourism industry.

2.2.3 Literature Review

Electronic payments have become increasingly popular in the tourism industry and have shown potential impact by revolutionizing the operations of tour operators' supply chain by improving financial transactions, cutting transaction costs, providing a secure way to conduct financial transactions, increasing the number of consumers and have an impact on customers satisfaction (9). Naeem et al. (2020) revealed various types of electronic payment systems that can be adopted in the tourism industry including electronic banking, electronic cash, banking via the Internet, and online banking. A study by Oyelami et al. (2020) and (31) found that electronic payment adoption positively influences consumer spending growth. Zandi et al. (2016) Stated that electronic payment can facilitate transactions between the main components of the supply chain including suppliers such as airlines, hotels, rental cars, travelers and customers, intermediaries, travel agents, inbound and outbound operators, and increase supply chain efficiency. Mobile payment benefits travel and tourism service providers by offering low processing fees and the capability to enable visitors to

make payments conveniently and securely, stay in contact with travelers throughout their journey, and finally contribute to the sales growth for tour operators (7).

(33,34) found that the perceived ease of using digital payments significantly influences the perception of service quality and has effects on visitors' satisfaction. However, E-payment still faces various challenges for travelers, including a lack of interoperability between systems and the need to increase consumer understanding about the benefits of mobile pay (5,7). Furthermore, concerns related to cybersecurity have emerged as a significant barrier to the adoption of electronic payment methods; have eroded the trust of both consumers and businesses in online transaction systems.

2.2.4 Conceptual Framework

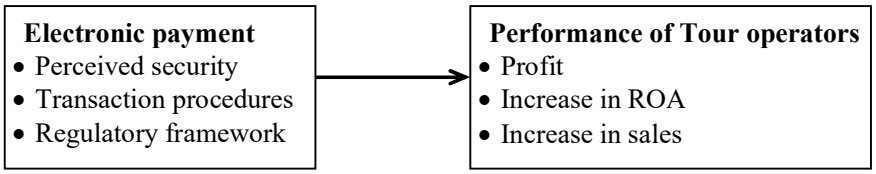


Figure 1: Conceptual Framework
Source: Author (2024)

2.2.4.1 Operationalization of Variables

Perceived security refers to the assessment of security by users when engaging in electronic transactions. It encompasses users' beliefs, attitudes, and feelings regarding the safety and protection of their financial information during online payments (35,36). This variable is crucial as it influences users' trust in electronic payment systems and their willingness to adopt and continue using such systems. Factors affecting perceived security include encryption methods, authentication processes, data protection measures, and overall system reliability (35).

Transaction Procedures

Transaction Procedures enhance visitors' experience by providing an easy and flexible way to book and pay for excursions safely, increasing speed in transaction processing, lowering handling charges, and being user-friendly and convenient for payment (Laura and Aurora, 2019). Users are more likely to adopt an electronic payment method that is convenient and user-friendly. Users need to be aware of the existence and benefits of electronic payment methods (23).

Essential features for secure and reliable electronic transactions include; transaction confirmation, user authentication, transaction history and audit trails, transaction timeliness, and secure access control.

Regulatory environment

Consumer Protection Policies in electronic payment methods include fraud protection, dispute resolution, and liability for unauthorized transactions. Interoperability Standards aim to enhance accessibility by facilitating compatibility between different electronic payment systems (37).

3. Research Methodology

3.1 Research Approach

The mixed-methods research approach was used as it allows the integration of results of both approaches and provides a richer and more comprehensive response to the research questions as compared to the use of the mono-method approach (Saunders et al., 2009). Previous studies by Al-Adamat (2015) and Kayani (2014) used mixed methods research to supplement quantitative with qualitative research methods Thus, combining the two approaches resulted in complementing each other by contributing strengths and preventing the weaknesses of each method to enhance the validity of the study (41).

3.2 Research Design

In the current study, a convergent parallel mixed method design was employed. Both quantitative and qualitative data were collected concurrently. However, they were analyzed separately, and the overall results were obtained by integrating the qualitative and quantitative findings (Creswell, 2014). This approach provides a comprehensive analysis of the research problem since the two sets of data were different but complement each other on the same topic.

3.3 Study Locations

The study focused on three key tourist regions: Dar es Salaam and Zanzibar, selected purposively due to variations in tourism activities across Tanzania. Tanzania's mainland is renowned for its wildlife attractions while Zanzibar is known for its beach activities (43). Furthermore, Arusha has the largest number of tour operators followed by Dar es Salaam (Tanzania Tourist Board [TTB], 2017). The selected regions are strategically located near major international airports: Julius Nyerere International Airport (JNIA), Kilimanjaro International Airport (KIA), and Abeid Amani Karume International Airport (AAKIA. Despite the difference in location, all tour operators play the same function of offering products and services to visitors (Cooper, 2012).

3.4 Population of the Study

The study population comprised all tour operators registered by TTB in Tanzania, each have a minimum of one year of experience. This criterion ensures that participants possess sufficient knowledge and experience in the tour operating business, given that experience has a positive correlation with performance (Olise et al., 2014). Thus, the current study focused on tour operators, recognizing their role as the main facilitators and links between

customers and suppliers of the package holiday (46). Statistics show that there are about 1,905 registered tour operators in Tanzania mainland and 47 in Zanzibar (TTB, 2019; Zanzibar Association of Tour Operators [ZATO], 2018).

3.5 Sampling Frame

The sampling frame, consisting of all cases in the population, forms the basis for drawing representative sample (38). For the current study, the sampling frame includes 543 tour operator firms located in Arusha, Dar es Salaam, and Zanzibar. The specific categories were chosen due to their significant representation within the population of travel and tourism enterprises. Arusha has the largest number of tour operator enterprises (401), followed by Dar es Salaam (95), and Zanzibar (47).

3.6 Sampling Unit

The unit of analysis is referred to as the items that are observed, measured, or collected for sampling, and from whom the questionnaire will be filled in collecting relevant data (48). The unit of analysis in this study is the tour operator firms, with individuals such as managers or owner-managers serving as the unit of inquiry as they possess extensive knowledge of the organization and provide enough information. Key informants were chosen based on their formal position, knowledge of the core study issues, and willingness to participate. Interviews were terminated upon reaching the saturation point where no new information was anticipated (49).

3.7 Sampling Technique

The current study utilized multistage sampling, a technique applied when the targeted population is geographically dispersed and divided into groups such as regions, This approach involves a combination of techniques to obtain a representative sample (41). The following procedure was followed: First, three regions were chosen, and then tour operating firms were identified from the sampling frame of 543 companies in Arusha, Dar es Salaam, and Zanzibar. They were selected using a stratified random sampling technique based on the geographical locations (50,51). Subsequently, the initial working sample was determined through simple random sampling.

3.8 Sample Size

The sample size was determined using the formula provided by Yamane, (1967) (Formula 1) for calculating sample size with a confidence level of 95% assumed in the current study as the level of certainty that the sample will represent the population.

$$n = \frac{N}{1 + N(e)^2} \quad (1)$$

Where in the current study, N - the population size = 543,
e - The level of precision (margin of error limit) = 0.05,
n - The sample size of tour operators.

$$n = \frac{543}{1+543(0.05)^2} = 230.3 \approx 230$$

The sample size was 230 firms.
Therefore, from the list of 543 firms, the formula provided a sample size of 230 firms.
Thirdly, proportionate stratified sampling was employed which is a stratified random sampling with a uniform proportion of items drawn from each homogeneous group (51). The sampling frame was divided into three strata, and samples were selected by stratum in proportion to their strata sizes (see Table 1).

Table 1: Proportionate Stratified Sampling

Regions	Tour operator's ratio	Proportionate Sample size
Arusha	401:543	170
Dar es Salaam	95:543	40
Zanzibar	47:543	20
Total Sample Size		230

Finally, tour operator firms for the current study were selected using a simple random sampling method. This approach ensures equal chances for every member of the population to be chosen (53). The selection of potential key informants was carried out by using purposive, which is a non-probability sampling technique. The key informants comprised of 15 managers or owners of tour operator firms. The selection criteria for owners or managers include having adequate information about their daily operations involving EPS usage and performance of the firm, as well as a demonstrated interest in participating in the interview.
Similarly, 13 interviews were conducted with tourists. Interviews were terminated when the saturation point was reached, that is no new information was emerging Saunders et al. (2018). Interview with key informants and visitors enabled the collection of crucial information related to the study to addressing the research objectives.

3.9 Data Collection Instruments

The study used survey methods to collect primary data. As Kothari and Garg (2014) point out that primary data can be collected by using either an experiment or a survey. The current study used a self-administered questionnaire and personal interview using a semi-structured interview.

3.10 Self-Administered Questionnaire

A structured questionnaire was used in the current study with both closed and open-ended, covers a wider geographical area at low cost, allows freedom and privacy of the respondents and is free from the bias of the interviewer (55).

3.11 Semi-Structured Interview

A Semi-structured interview was used to collect qualitative data using an interview guide. The semi-structured interview was used to understand the meaning that respondents give to various issues and lead to discussion into areas that had not previously been captured through a self-administered questionnaire (Saunders et al., 2009). Creswell (2009) points out that the interview method was used to capture the perceptions and feelings of the respondents. The interview guide was composed of 12 open-ended questions for the key informant and 7 questions for visitors.

3.12 Pre - Test

A set of structured questionnaires were pre-tested to the respondents drawn from the population of the study for comprehension by experts in the subject matter to address weaknesses and strengths (57). To test for face validity, managers or owners-manager of 10 tour operators' firms were requested to complete the questionnaire and evaluate the clarity, length, level of difficulty, wording, and any other problem. A minimum sample of 10 respondents was considered adequate to identify any weakness of the questionnaire (58). Pre-test enabled the current study to increase response rates, reduce missing data, and obtain more valid responses as most of the respondents were able to understand the questions and answer accordingly.

3.13 Reliability of Data Collection Instruments

Reliability refers to the extent to which the data collection technique or data analysis procedure yields consistent findings for a while. Reliability can be tested by test-retest, alternative forms, and internal consistency (38). To ensure consistency of findings a pre-test of the scale was conducted and usage of more than one method of data collection including structured questionnaires and semi-structured interviews were employed.

Cronbach's alpha coefficient and composite reliability were employed as measure of internal consistency. This measure has a coefficient ranging from 1 to 10. Adequate reliability is considered when the correlation coefficient is 0.7 or higher (Cronbach, 1951; Hair, Black, Babin, & Rolph, 2010). The results indicate that the research instrument was highly reliable with Cronbach alpha ranging between 0.70 and 0.910 and composite reliability ranging from 0.653 and 0.919. Therefore, the findings can be generalized to the population characteristics. According to Saunders et al (2009), a reliability test is not sufficient unless combined with validity as results might be reproducible but they are not necessarily accurate.

4. Results and Discussion

4.1. Methods of Payments Utilized by Tour Operators and Firm Category of Tour Operators

Tour operators used several methods of payment from their customers and to their suppliers and government. The relationship between the method of payment and the micro, small, and medium tour operators' categories (based on the number of employees) was determined using cross-tabulation (see Table 2).

Table 2: Method of Payment and Firm Category

		Company size (number of employees)		
		Micro%	**Small %**	**Medium %**
Cash payment	No	28.7	34.8	72.9
	Yes	75.3	65.2	27.1
Cheque payment	No	78.7	72.2	25.0
	Yes	21.3	27.8	75.0
Mobile payment	No	85.1	87.0	100.0
	Yes	14.9	13.0	0
ATM Payment	No	86.2	87.0	75.0
	Yes	13.8	13.0	25.0
Credit card payment	No	76.4	50.4	0
	Yes	23.8	49.6	100

Table 2 reveals that all (100%) medium-sized tour operators' firms prefer the usage of credit cards in business transactions, with small firms at (49.6%) and micro firms at (23.8%). In terms of cash payment, micro companies lead with (75.3%) preference, followed by small at (65.2%) and medium at (27.1%). Furthermore, 75% of medium firms opt for cheque payments. The least preferred methods of payment for micro, small, and medium firms were ATM and mobile payment. Specifically, for small and micro firms, the least favored methods included ATM, mobile payments, and cheque payments.

During the interview, it was further observed that:

"Not all visitors' books online, some come straight to the office to make the bookings and pay in cash. We are dealing with both online and offline customers."

This implies that most of tour operators and foreign tourists utilize both electronic and cash methods of payment, depending on convenience and risk of transacting. The findings of Oney et al. (2017) and WTTC (2019) indicated that perceived security and trust have a significant influence on electronic payment system usage, with both factors determined by technical protection and experience. Consequently, security and trust among suppliers and customers may hinder the effective utilization of the electronic payment system (21). Therefore, to enhance sales, the use of electronic payment methods such as mobile payment and credit cards is crucial for tour operators as these methods of payments enable

visitors to pay promptly, anywhere even in remote areas and at reasonable costs, provided there is an internet connection.

(63) noted that usage of mobile payment is essential as it enables travel and tourism service providers to benefit from low processing fees, stay in contact with tourists throughout the journey, and build customer engagement quickly and easily, anywhere, and anytime. Therefore, for tour operators to satisfy tourists and attract others, the use of electronic payments such as mobile payment is important.

4.2. Challenges Experienced by Tour Operators in Adopting Electronic Payment

The respondents were asked to rate the extent to which the outlined challenges face their organizations. Figure 2 shows the findings of tour operators' responses.

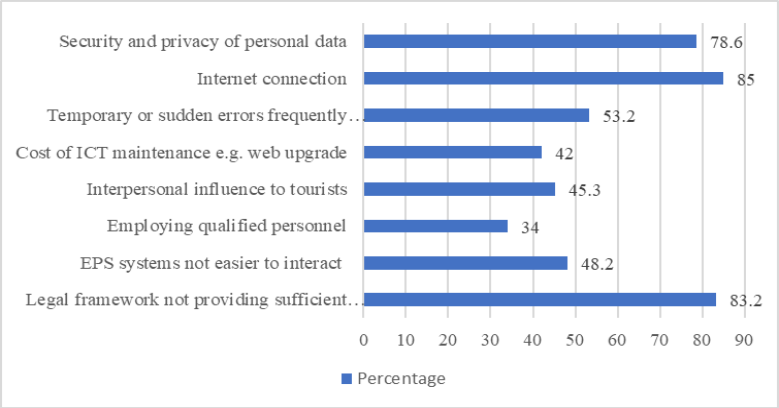


Figure 2: Challenges Experienced by Tour Operators (in Percentages)

The findings in Figure 2 depict the primary challenges faced the majority of surveyed tour operators surveyed including internet connection issues being the most prevalent at (85%). A slow internet connection can lead to visitors' dissatisfaction with destination services, as it can take time to open a website or access social media, causing delays in payments for various fees. During the interview, a slow Internet connection was found to be a challenge to most tour operators. One respondent complained that:

"TANAPA payment is a problem; once their network is down no feedback is given. In some areas it is difficult to obtain the control number for payments."

Another challenge scoring 83.2% is that the legal framework does not offer sufficient protection to create trust in electronic payment systems (EPS).

Furthermore, it was observed during an interview that some of the tour operators are not trustworthy; once they are paid, they don't deliver as agreed with the tourist. For instance, one respondent commented that:

"Some tour operators are not trustworthy; once they are paid, they disappear."
Furthermore, the security and privacy of personal data were found to affect the performance of tour operators, with 78.6% encountering this challenge. According to the crime and traffic incidents statistics report (64) technology usage has led criminals to devise new methods of committing crimes, such as cybercrimes. The findings align with a study by Dangol and Kautish (2019), which identified security, awareness, and legal and regulatory issues as challenges affecting the performance of the firm. Dangol and Kautish (2019) established that data theft and breaches resulted from sending customer's payment information through a payment gateway via un-protected merchants, making them vulnerable to hackers. Similarly (8) found that perceived security was the most significant predictor EPS usage.
These results are consistent with the qualitative analysis where one of the respondents explained that:
"Our website was hacked by cybercriminals, who communicated with our customer, received payments, and our firm compensated the customer for the incurred losses by paying for the cost incurred".
This shows that ensuring online security is essential for the smooth operation of business transactions as technology advancement takes place so the level of cyber crimes increases. Tour operators to align with industry trends while also addressing the needs and preferences of modern travellers' expectations, ensuring a secure financial experience throughout their journey (7).

Table 3: Interview Results with Tourists

Themes	Sub-theme	Percentage %
Electronic payment usage	Cash	52.4
	Credit card	24.2
	mobile banking	23.4

Table 3 indicates that during their trip, most of the tourist procured various products and services by cash (52.4%), (24.2%) used credit cards and (23.4%) used mobile banking. This suggests that the preferred method of payment by tourist was cash.

4.3. Inferential Statistical Analysis Results

In the current study, data analysis was carried out in two phases, the first phase was concerned with exploratory factor analysis followed by confirmatory factor analysis (CFA) that evaluated the measurement model reliability and validity.

Exploratory Factor Analysis Results

Exploratory factor analysis was conducted using IBM SPSS version 20 to identify and reducing the large into few numbers of measuring items that cluster together in measuring a variable (59).

4.3.1.1. Appropriateness of Data for Factor Analysis for Electronic Payment System (EPS) Usage Variables

Factor analysis requires an adequate sample size and sufficient correlation between variables. To meet the requirements two tests were performed namely Kaiser-Meyer-Olkin (KMO) to determine whether the sample size for electronic payment usage items was adequate and Bartlett's test to determine the existence of correlation among items measuring (see Table 4.10).

Table 4: EPS usage - KMO Measure of Sampling Adequacy and Bartlett's Test of Sphericity Results

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.779
Bartlett's Test of Sphericity	Approx. Chi-Square	866.492
	Df	55
	Sig.	0.000

The findings in Table 4 show the results of the Kaiser-Meyer-Olkin Measure of Sampling adequacy of 0.779 indicating that the sample size was adequate as it was above the threshold of 0.5 (Tabachnick and Fidell, 2014). Bartlett's test of sphericity result gives a Chi-square = 866.492, with a degree of freedom df of 55, $p < .05$, which suggests that there are some correlations between the test variables of electronic payment usage.

4.3.1.2. Factor Extraction for Electronic Payment Usage Variables

Factor extraction is performed to determine the number of variables to be retained for rotation. The Eigenvalue rule and the scree plot test are used to give the number of factors that give the most interpretable solution. Variables with Eigenvalue higher than 1 as a rule of thumb are likely to represent a real variable. Other factors with less than 1 Eigenvalue are considered weak factors as they have low Eigenvalue quality scores.

Table 5: Total Variance Explained by the Factors of EPS Usage

Variables	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.915	35.593	35.593	2.677	24.336	24.336
2	1.682	15.291	50.884	2.426	22.055	46.390
3	1.213	11.031	61.915	1.708	15.524	61.915

The results in Table 5 revealed the presence of three components or variables with Eigenvalues exceeding 1 explaining 35.593%, 15.29%, and 11.03% of the variance. Final factor analysis results confirmed three EPS usage variables, which are perceived security, transaction procedures, and regulatory environment.

4.3.1.3. Communalities after Extraction for EPS Usage Variables

Communalities give information on how much each indicator or item contributes to measuring the respective variables such as perceived security, transaction procedures, and regulatory environment. A value of less than 0.3 indicates that the item does not contribute much to measuring a given variable, it is a useless item that needs to be removed (66,67).

Table 6: Communalities after Extraction for Electronic Payment Usage

Items	Initial	Extraction
Perceived security	1	0.801
Transaction procedures	1	0.533
Regulatory framework	1	0.681

Extraction Method: Principal Component Analysis.

Table 6 shows that all the items' contributions after extraction were between 0.374 and 0.802, that is all were above the threshold of 0.3.

The findings suggest that the test items contribute well in measuring their respective variables and none of the variables needs to be excluded in further analysis.

4.3.1.4. Factor Rotation for Electronic Payment Usage

The factor rotation component matrix shows the arrangement of items loading to their respective three variables or components. This helps in understanding which items measure which variable or factor.

Table 7: A Rotated Component Matrix for Electronic Payment Usage

Items	Component
	Electronic payment
Perceived security	0.753
Transaction procedures	0.688
Regulatory environment	0.619

The results in Table 7 indicate that all the factor loadings are greater than 0.5, thus each item measuring EPS usage is strongly associated with its respective variable. A variable, factor, or component represents what its items have in common.

4.3.1.5. Appropriateness of Data for Factor Analysis for the Performance of Variables

The suitability of the performance data for factor analysis was determined by assessing the adequacy of sample size, and the presence of sufficient correlations between performance variables. The Kaiser-Meyer-Olkin (KMO) was employed to assess the sampling adequacy for factor analysis. A KMO value greater than

0.6 indicates that the sample size was adequate and the data supports the use of factor analysis (65). Additionally, Bartlett's for sphericity tested the existence of correlation among items measuring performance (see Table 8).

Table 8: KMO and Bartlett's Test for Performance Variables

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		**0.676**
Bartlett's Test of Sphericity	Approx. Chi-Square	608.870
	Df	3
	Sig.	.000

The results in Table 8 indicate that the Kaiser-Meyer-Olkin value was 0.676 that exceeds the recommended value of 0.5 (Tabachnick and Fidell, 2014) suggesting that the sample size is adequate for factor analysis. Therefore, the sample size was adequate and the data supports the use of factor analysis. Additionally, the results reveal that Bartlett's test of sphericity gave a chi-square value of 608.870, with df of 3, a p-value <.05, indicate sufficient correlations among the test variables of performance (Hair et al., 2010). The results affirm the appropriateness of the data for factor analysis.

4.3.1.6. Factor Extraction for Performance Variable

The eigenvalues method was employed to determine the number of variables to extract as illustrated in Table 9. According to Hair et al. (2010) and Pallant (2007), factors with eigenvalues greater than one (E>1) should be considered for the extraction of factors.

Table 9: Total Variance Explained for Performance of Tour Operators

Component	**Initial Eigenvalues**			**Rotation Sums of Squared Loadings**		
	Total	**% of Variance**	**Cumulative%**	**Total**	**% of Variance**	**Cumulative %**
1	2.547	84.898	84.898	2.547	84.898	84.898
2	0.399	13.290	98.189			
3	0.054	1.811	100.000			

Extraction Method: Principal Component Analysis

Principal components analysis revealed the presence of one component with an eigenvalue exceeding 1, explaining 84.898% of the variance, as shown in Table 9. The results suggest the retaining of one variable for further investigation as the variable contributes the most to the explanations of financial performance in the dataset.

4.3.1.7. Communalities after Extraction for Performance Variable

The contribution of each item to the respective variable was determined by using communality values (68) (see Table 10). An item with a communality value less

than 0.3 needs to be deleted as it does not sufficiently contribute to measuring the performance variable.

Table 10: Communalities

Items	Initial	Extraction
Increase in sales revenue	1	0.925
Increase of profit	1	0.714
Increase returns on Assets (ROA)	1	0.909

Extraction Method: Principal Component Analysis

The findings in Table 10 reveal that the communalities after extraction ranged between 0.714 and 0.925, These values indicate that all items measuring performance were above the threshold of 0.3 suggesting that the items contribute effectively to measuring the performance variable (Hair et al., 2010).

4.3.1.8. Factor Rotational Matrix for Performance Variable

The results presented in Table 11 indicate that all the items to financial performance such as an increase in return on assets (ROA), increase in profit, and increase in revenue were loaded in a component or variable 1 above 0.5. This value is considered an acceptable limit as suggested by Hair et al (2010), signifying a strong association of each item with the performance variable. Since all the items were employed in estimating financial performance, the component or variable was named financial performance (69).

Table 11: Performance of Tour Operators - Component Matrix

	Financial performance
Increase returns on assets (ROA)	0.962
Increase of profit	0.845
Increase in sales revenue	0.953

4.4 Confirmation of Hypotheses

To confirm the hypotheses of the study the computation of significance or insignificance, the strength of each path in the structural model was tested by using structural equation modeling using IBM SPSS Amos version 20 software. Thus, the software was used to obtain the strength of each path by finding a beta value (β). The statistical significance or insignificance was tested through bootstrap analysis shown in Table 12.

Testing of Hypothesis: Electronic payment has no significant effect on the performance of the tour operators' supply chain.

Table 12: Hypotheses Confirmation Results

Hypotheses			(β)	P-value	Rejected/ Not rejected
H_{01}	Electronic payment	→Performance	0.441	<0.001	Rejected

The hypothesis determined whether electronic payment affects the performance of tour operators' supply chains in Tanzania. Three indicators measuring the construct of electronic payment were perceived security, transaction procedures, and regulatory environment. Table 12 presents the results on electronic payment system usage with coefficient $\beta = 0.441$ at p-value $< .001$. The results confirm a positively significant relationship exists between electronic payment usage and the performance of tour operators' supply chain. Based on the findings the null hypothesis was rejected indicating that the utilization of electronic payment methods contributes to improvement in key performance indicators namely increasing sales, Return on Assets (ROA), and profit.

The findings revealed that e-payment has a positive correlation with the performance ($r^2 = 20\%$) of tour operators' supply chains. The positive correlation coefficient indicates the importance of considering e - payment strategies in the strategic decision-making process for tour operators to improve overall supply chain performance.

5. Conclusion and Recommendations

Tour operators should adapt to industry trends and address the evolving needs and preferences of modern tourists' by integrating modern electronic payment methods into their systems like mobile payments, to enhance convenience and accessibility by customers to remain competitive in the market.

Establishing a secure environment for electronic payments requires strategic efforts and collaboration among various stakeholders, including government bodies, industry regulators, and tour operators. Strategic partnership and cooperation are essential in creating a secure, reliable, and trustworthy environment for successful of e - payment systems usage.

Tour operators should prioritize investments in secure and technologically advanced payment solutions to reap the financial benefits including not only an increase in sales revenue, but also improved return on assets, and overall profitability and contribute to the growth of tour operator businesses.

References

1. Tigu G, Calareţu B. Supply chain management performance in tourism continental hotels chain case. Amfiteatru Econ. 2013;15(33):103–15.
2. Sigala M. A supply chain management approach for investigating the role of tour operators on sustainable tourism: the case of TUI. J Clean Prod. 2008;16(15):1589–99.
3. Arifin M, Ibrahim A, Nur M. Integration of supply chain management and tourism: An empirical study from the hotel industry of Indonesia. Manag Sci Lett. 2019;9(2):261–70.
4. Klapper L. How digital payments can benefit entrepreneurs. IZA World Labor. 2017;1–9.
5. WEF. Addressing E-Payment Challenges in Global E-Commerce [Internet]. 2018. Available from: http://www3.weforum.org/docs/WEF_Addressing_E-Payment_Challenges_in_Global_E-Commerce_clean.pdf
6. Laura LB, Aurora RR. The importance of online payment on Travel and Tourism incomes - A Cross-Country Panel Data Study. Acad Int Sci J. 2019;20(July):199–222.
7. Zou S, Wu L, Liu H, Turner R, Li X. Mobile Payments in Travel & Tourism: Unlocking The Potential [Internet]. 2019. Available from: https://wttc.org/Portals/0/Documents/Reports/2019/Security_and_Travel_Facilitation_Seamless_Travel_Journey_Mobile_Payments_in_Travel_and_Tourism_Mar_2019.pdf?ver=2021-02-25-182803-757
8. Chellapalli T, Venkata D, Kumar S. Role Of Customer Perceptions In The Usage Of Electronic Payment Systems. Int J Sci Technol Res. 2020;9(02).
9. Mohan A. "Impact of E-Payment Systems on Customer Satisfaction." Int J Res Appl Sci Eng Technol. 2021;9(10):573–81.
10. Mashayekhi H. Factors influencing adoption of e-payment systems : an empirical study on Iranian customers Factors Influencing Adoption of E-Payment Systems : An Empirical Study on Iranian Customers. Inf Syst E-bus Manag. 2017;(December).
11. Peng R, Xiong L, Yang Z. Exploring Tourist Adoption of Tourism Mobile Payment: An Empirical Analysis. J Theor Appl Electron Commer Res. 2012;7(1):21–33.
12. Oney E, Guven GO, Rizvi WH. The determinants of electronic payment systems usage from consumers' perspective. Econ Res Istraz [Internet]. 2017;30(1):394–415. Available from: http://dx.doi.org/10.1080/1331677X.2017.1305791
13. Mwenegoha T. The Development of Consumer Protection Laws in Tanzania for Electronic Consumer Contracts The Development of Consumer Protection Laws in Tanzania for Electronic Consumer Contracts A thesis submitted in fulfilment of the requirements for the degree of Doct. Bond University; 2016.

14. Chang B -y., Magobe MJ, Kim YB. E-commerce applications in the tourism industry : A Tanzania case study. SAfrJBusManage. 2015;46(4):53–64.
15. Sedoyeka E, Sicilima J. Tanzania National Fibre BroadBand Backbone. Int J Comput ICT Res. 2016;10(1):61–92.
16. MoFP. National five years development plan 2016/17-2020/21. 2016.
17. United Republic of Tanzania (URT). The 2022 international visitors' exit survey report [Internet]. Dodoma; 2022. Available from: file:///E:/papers/e-payment/2022InternationalVisitorsExitSurveyReport.pdf
18. Bennett JA, Schoeman L. The Tourism System and Major Role-Players Involved. Managing Tourism Services. 3rd ed. Pretoria: Van Schaik Publishers; 2005. 30–62 p.
19. Gonz´alez-Torres, Rodríguez-S´anchez J-L, Pelechano-barahona E. Managing relationships in the Tourism Supply Chain to overcome epidemic outbreaks : The case of COVID-19 and the hospitality industry in Spain. Int J Hosp Manag. 2020;(January).
20. Primadineska RW, Jannah SM. Perceived Security and Trust in Electronic Payment Systems: How They Affect the Decision to Use EPS During the COVID-19 Pandemic. J Manaj Bisnis. 2021;12(2).
21. Dangol S, Kautish S. It Security related issues and challenges in electronic payment system in Nepal : a study from customer ' s perspective. Res J Dangol, S, Kautish, S (2019) It Secur Relat issues challenges Electron Paym Syst Nepal a study from Cust ' s Perspect Res J Sci Technol Manag 1(2), 85–103Science, Te. 2019;1(2):85–103.
22. Kim C, Tao W, Shin N, Kim KS. An empirical study of customers' perceptions of security and trust in e-payment systems. Electron Commer Res Appl [Internet]. 2010;9(1):84–95. Available from: http://dx.doi.org/10.1016/j.elerap.2009.04.014
23. Ramli Y. Adopting Digital Payment based on the Features and Benefits provided by the Application. Eur J Bus Manag Res. 2020;5(3):1–6.
24. Tsiakis T, Sthephanides G. The concept of security and trust in electronic payments. Comput Secur. 2005;24:10–5.
25. Davis FD. A technology acceptance model for empirically testing new end-user information systems. Cambridge, MA, 17.; 1986.
26. El Archi Y, Benbba B. The Applications of Technology Acceptance Models in Tourism and Hospitality Research: A Systematic Literature Review. J Environ Manag Tour. 2023;14(2):379–91.
27. Hasni MJS, Farah MF, Adeel I. The technology acceptance model revisited: empirical evidence from the tourism industry in Pakistan. J Tour Futur. 2022;1–21.
28. Singh S, Srivastava P. Social media for outbound leisure travel: a framework based on technology acceptance model (TAM). J Tour Futur. 2019;5(1):43–61.
29. Naeem M, Hameed M, Taha MS. A study of electronic payment system. In:

1st International Symposium on Engineering and Technology (ISETech). ISETech; 2020.
30. Oyelami LO, Adebiyi SO, Adekunle BS. Electronic payment adoption and consumers' spending growth: empirical evidence from Nigeria. Futur Bus J. 2020;6(1):0–14.
31. Kilay AL, Simamora BH, Putra DP. The Influence of E-Payment and E-Commerce Services on Supply Chain Performance Implications of Open Innovation and Solutions for the Digitalization of Micro, Small, and Medium Enterprises (MSMEs) in Indonesia. J Open Innov Mark Complex. 2022;8:119.
32. Zandi M, Koropeckyj S, Singh V, Matsiras P. The Impact of Electronic Financial Payments on Economic Growth. SSRN Electron J. 2016;1–31.
33. Susanto E, Hendrayati H, Rahtomo WR, Prawira MFA. Adoption of Digital Payments for Travelers at Tourism Destinations. African J Hosp Tour Leis. 2022;11(2):741–53.
34. Lou L, Tian Z, Koh J. Tourist satisfaction enhancement using mobile QR code payment: An empirical investigation. Sustain. 2017;9(7):1–14.
35. Solat S. Security of Electronic Payment Systems: A Comprehensive Survey [Internet]. Sorbonne Universités, UPMC University of Paris VI; 2017. Available from: http://arxiv.org/abs/1701.04556
36. Himani. A Study of Consumer perception regarding digital payment system in India. Int J Manag Soc Sci. 2018;6(8):13–23.
37. World Bank Group. Consumer Protection in the Context of Fast Payments. Focus Note: World Bank Fast Payments Toolkit. 2021.
38. Saunders M, Lewis P, Thornhill A. Research Methods for Business Students. 5th ed. London: Prentice Hall; 2009. 649 p.
39. Kayani KK. Impact of ICT on bricks and mortar travel agents and changes in supply chain positioning. 2014.
40. Al-Adamat A. The impact of information and communication technology on the marketing performance of Jordanian Hotels. (Doctoral dissertation).Queen Margaret University, East Lothian, Scotland.; 2015.
41. Hesse-Biber SN. Mixed methods research: Merging theory with practice. The Guilford Press. New York: The Guilford Press; 2010. 242 p.
42. Creswell J. Research design quantitative, qualitative and mixed methods approaches. 4th ed. Night V, editor. Los Angeles: SAGE Publications, Inc.; 2014.
43. NBS. The 2016 International Visitors ' Exit Survey Report [Internet]. Dar es Salaam; 2017. Available from: http://www.nbs.go.tz/nbstz/index.php/english/statistics-by-subject/hotels-and-tourism-statistics/956-international-visitors-exit-survey-report-2016
44. TTB. List of Registered Tanzania Tour Operators [Internet]. 2017 [cited 2017 Sep 10]. Available from: https://www.tanzaniatourism.go.tz/operators/listings/category/tour-operators/P10

45. Cooper C. Essentials of tourism. 2nd ed. Edinburgh Gate: Pearson Education Limited; 2012.
46. Gartner WC, Bachri T. Tour operators' role in the tourism distribution System. J Int Consum Mark. 1994;6(3–4):161–79.
47. ZATO. Zanzibar Association Of Tour Operators [Internet]. 2018 [cited 2018 Nov 6]. Available from: http://www.zato.or.tz/
48. Cresswell JW. "Mapping the field of mixed Methods Research." J Mix Methods Res. 2009;3(2):95–108.
49. Patton MQ. Qualitative Research & Evaluation Methods [Internet]. 3rd ed. Qualitative Inquiry. Sage Publications, Inc.; 2002. Available from: http://books.google.com/books/about/Qualitative_research_and_evaluation_meth .html?id=FjBw2oi8El4C
50. Kothari C., Garg G. Research methodology. 3rd ed. New Delhi: New Age International (P) Ltd.; 2014.
51. Rubin A, Babbie R. Chapter 10: Essential Research Methods for Social Work [Internet]. Essential Research Methods for Social Work. 2008. 362 p. Available from: https://books.google.nl/books?id=cO8lh0omJtMC
52. Yamane T. Statistics: An Introductory Analysis. 2nd ed. New York: Harper and Row; 1967.
53. Cohen L, Manion L, Morrison K. Research methods in education. 6th ed. Routledge.: Routledge; 2007.
54. Saunders B, Sim J, Kingstone T, Baker S, Waterfield J, Bartlam B, et al. Saturation in qualitative research: exploring its conceptualization and operationalization. Qual Quant. 2018;52(4):1893–907.
55. Krishnaswami O., Ranganatham M. Methodology of Research in Social Sciences. 4th ed. Mumbai: Himalaya Publishing House PVT. LTD; 2010. 126–141 p.
56. Creswell JW. Research design: Qualitative, quantitative, and mixed methods approaches. 3rd ed. California: Sage Publications, Inc.; 2009.
57. Kothari CR. Research Methodology: Methods & Techniques. 2nd ed. New Age International (P) Ltd. New Delhi: New Age International (P) Ltd.; 2004. 418 p.
58. Fink A. eSurvey Handbook. 2nd ed. California 91320: Sage Publications, Inc.; 2003.
59. Hair JF, Black WC, Babin BJ, Anderson RE. Multivariate Data Analysis. Vectors. Pearson Prentice Hall; 2010. 816 p.
60. Cronbach LJ. Coefficient Alpha and the Internal Structure of Tests. Psychometrika. 1951;16(3):297–334.
61. Oney E, Guven GO, Rizvi WH. The determinants of electronic payment systems usage from consumers ' perspective. Econ Res Istraživanja [Internet]. 2017;30(01):1–22. Available from: http://dx.doi.org/10.1080/1331677X.2017.1305791

62. WTTC. Tanzania travel and tourism economic impact. London; 2019.
63. WTTC. Mobile payments in travel & tourism: unlocking the potential [Internet]. 2019. Available from: https://www.wttc.org/-/media/files/reports/2019/mobile-payments-in-travel-tourism.pdf
64. URT. Crime and Traffic Incidents Statistics report. Dar es Salaam; 2017.
65. Tabachnick BG, Fidell LS. Using multivariate statistics / Barbara G. Tabachnick, Linda S. Fidell. [Internet]. 6th ed. 2014. 1055 p. Available from: https://hollilermalemi.files.wordpress.com/2017/05/using-multivariate-statistics-5th-edition-by-barbara-g-tabachnick-linda-s-fidell.pdf
66. Pallant J. SPSS. Survival Manual A Step by Step Guide to Data Analys i s using SPSS for Windows third edition [Internet]. New York; 2007. Available from: www.openup.co.uk
67. Schütz T. Book Review: A Concise Guide to Market Research: The Process, Data and Methods using IBM SPSS Statistics. Vol. 53, International Journal of Market Research. 2011. 563–564 p.
68. Byrne BM. Structural Equation Modeling with AMOS:Basic Concepts, Applications, and Programming [Internet]. 2nd ed. Vol. 22. New York: Taylor and Francis Group; 2010. 2009 p. Available from: http://www.uta.fi/aktkk/lectures/sem_en/pdf/sem_exercise_v2.4.pdf
69. Krej M, Strielkowski W, Čabelková I. Factors that influence the success of small and medium enterprises in ICT : a case study from the Czech republic. Bus THeory Pract. 2015;16(2):304–15.