THE EFFECT OF E TICKETING SERVICES ON FINANCIAL PERFORMANCE OF SELECTED AIRLINE OPERATORS IN KENYA

*****Braion Kigamwa Simatwa[1], Dr. Rahab Wanjiku Lanoi, PhD [2] & Dr. Joseph Macheru Ngunjiri, PhD[3]

[1]Student, Catholic University of Eastern Africa

[2,3]Lecturers, Catholic University of Eastern Africa

*Corresponding Author's Email: bkigamwa@gmail.com

Abstract

Airline industry remains one of critical forms of transport globally as it facilitates the fastest transportation of people, goods and services. The Kenyan airlines have expanded their airline services to include e-ticketing services. Despite the prominence of e-commerce in the airline industry, its impact on financial performance remains scanty. This study thus sought to determine the effect of e-ticketing on the financial performance of selected Kenyan airline operators. The study was guided by diffusion of innovation theory. A correlational research design was used with a sample size of 376 employees. Purposive sampling method was used to select airline operators and simple random sampling to select respondents. Primary data collected using structured questionnaires and analyzed using SPSS software version 27 was used. The data was analyzed using Pearson correlational statistics including percentages, frequencies, means and standard deviation and inferential statistics including correlation and regression analysis. From the findings, e-ticketing had a positive impact on financial performance of selected airline operators in Kenya. The study recommended that selected airline operators ought to harness the benefits of integrating e-ticketing services. The study further recommended that the regulatory authorities ought to formulate policies towards full utilization of electronic ticketing services.

Key words: e-ticketing, financial performance, selected Kenyan airline operators, Kenya.

1. Introduction

Airline industry remains one of critical forms of transport globally. The airline industry facilitates the fastest transportation of people, goods and services. Considering the significance of airline industry to the socioeconomic growth, the financial performance of airline operators is critically important. The airline industries have been integrating digital technologies in their operations to bolster performance including electronic ticketing. E-ticketing entails the searching for a potential flight and making a seat reservation and paying for it. Online system of booking flight tickets contain ticket records, passenger reservations, fare tariffs and airline schedules (Helmy, 2018).

E-commerce play a significant impact on the performance of airline industry yet remains partially explored via empirical literature (Connor, 2019). Approximately 79 percent of total revenue of airline tickets worldwide would be generated through online sales by 2027. Customer trends show that customers use websites to search, get wanderlust inspiration to compare prices before they can eventually make their bookings for travel (Statista, 2022).

In Asia, airlines are using electronic applications allowing passengers to make travel bookings, cancel books, check and compare pricing of different operators and get specifically tailored airline travel services and offers (Behl et al., 2022). Airline operators in South Africa are using e-commerce technologies to check airline flights, bookings and ticket purchases, and undertake seasonal promotions (Mantey et al., 2021).

The financial performance of the airline operators in Kenya has not been impressive. In 2022, KQ posted a net loss of Sh38.26 billion a sharp increase from a loss of sh15.87 billion in 2021. The loss in the KQ has been linked to declining competitiveness of the airline in the region to competitors like the Ethiopian Airline and operational inefficiencies. To bolster competitiveness, the airline operators in Kenya have been in frontline in the digitalization of its process through e-commerce systems.

2. Literature Review

2.1 Theoretical Literature Review

Diffusion of Innovation Theory

E.M. Rogers in 1962 postulated the theory and explains how speed and pattern at which ideas, practices or products are spread across a population. The theory states that innovation is the spontaneous dispersion of ideas. The theory attempts to clarify how concepts, ideas and technologies are shared and developed within a population (Rogers, 1962). The theory assumes that the success of innovation relies on five attributes including compatibility, relative advantage, simplicity, ease of use and results (Kaminski, 2011). The costs of innovation and social status are the vital aspects defining relative advantage of an innovation. Compatibility further defines how the concept, innovation or idea match with the existing technologies and systems or innovations to come in the future for smooth transition and improvement (Peixoto *et al.*, 2015). Ideas, technological innovations that are compatible with others are preferred mostly. In addition, complexity defines the level at which the innovation is hard to learn use and comprehend.

The innovation diffusion theory is relevant in comprehending the incorporation e-ticketing services in the operations of Kenya airline operators to enhance its financial performance as well as its competitiveness. It elaborates the significance of technological concepts like e-ticketing applications in bringing competitive advantage to Kenya airline operators. It significant to this study because the deployment of technology in the delivery of services by Kenya airline operators

enhance its financial performance. Thus, the diffusion of innovation is beneficial to Kenya airline operators in terms of making their service delivery efficient as well as effective.

The major limitation of the diffusion of innovations theory is its simplistic nature to revolve only around innovation or product while ignoring the presence of cultural, societal values, economic parameters and other innovation elements that may shape how ideas and innovations are integrated in the society (Olsson *et al.,* 2017). The current explanation of the theory does not clearly bring out the behaviours of organizations and individuals as they make decisions with regards the innovation adoption (George *et al.,* 2012). The theory is better in understanding adoption of behaviours and not with cessation or prevention of these behaviours. It does not consider social support and individuals' resources in the adoption of new behavior or innovation (Haider & Kreps, 2004).

2.2 Empirical Literature Review

Niazi (2021) studied on the factors that affected the intention to purchase of airlines e-ticket during Covid-19 pandemic in Pakistan using Unified theory of Acceptance and Use of Technology and an explanatory research design. Primary data collected using questionnaires from a sample of 810 respondents were used. The analysis outcomes indicated that the advent of the Covid-19 and website functionality spearheaded the development of e-commerce as stay-at-home were being implemented. Most passengers disregard perceived risk while purchasing airline e-tickets online because of travel restrictions and flight cancellations brought on by the Covid-19 epidemic. Airline officers should extend their online portal hours so that customers can contact airline officials whenever they want (Çallı & Çallı, 2023). However, the perceived risks factors negatively and insignificantly influence on the online e-tickets purchases. The current study seeks to cover the effects of e-marketing services on performance of airline operators in Kenya hence filling conceptual and contextual gaps.

Kuhil and Temesgen (2020) researched on Ethiopian airlines on the factors that influence the use of online flight bookings based on the Technology Acceptance Model using a quantitative research design with questionnaires used as the primary data collection instruments. The target population was 399 respondents on Ethiopian Airlines flights. From the results, perceived ease of use, perceived usefulness, relative advantage, perceived behavioural control, awareness, perceived risk and perceived trust all have a positive and significant effect on the usage of e-ticketing. The study presented contextual gap, conceptual gap and methodological gaps. The contextual gap exists because the study focused at Ethiopian airline operators. The country specific regulatory policies targeting airline operators may differ bringing about significant difference in the deployment of e-commerce by airline operators and performance. There exist conceptual gap and methodological gap because the study focused at factors that affected use of online flight bookings contrasting the current study that focuses at effect of e-ticketing on performance of airline operators in Kenya.

Gabor *et al.* (2022) performed a dynamic comparison research of e-ticket pricing for full-service Romanian airlines against low-cost carriers regarding Romanian airline e-commerce, a sustainable tool that is yield management. Technology acceptance theory, successive simulation and descriptive research design were used. Data was collected by utilizing a questionnaire. From the outcomes, quality on in-flight service, frequent flyer programs, schedule convenience, demand and operational factors, income and market structure fuel costs, seasonality and the type of market influence e-ticket prices. A contextual gap was evident because the study was done based on

Romanian airlines context while the current study was based on selected airline operators in Kenya.

Islam (2023) studied on heritage sites in Bangladesh on the factors influencing the desire to utilize a self-service e-ticketing technology employing explanatory research design and technology acceptance model. Questionnaires were used to collect data from a sample of 400 respondents. The results indicated that subjective norm and ease of use have positive significant correlation with intention and attitude to use e-ticketing. However, concern of privacy significantly and negatively associates with e-ticketing intention and attitude. Although e-ticketing intention is not significantly correlated with perceived use, attitude is. E-ticketing adoption behavior is significantly influenced by attitude, which modifies the links between e-ticketing intention and other dimensions (subjective norm, simplicity of use, and privacy concern). It was determined that the attitudes and intents of heritage tourists toward the system of electronic ticketing are influenced by subjective norms. The study presented contextual because the study focused at factors adoption of technology for self-service e-ticketing in Bangladesh contrasting the current study that focuses at effect of e-ticketing on performance of airline operators in Kenya. The country specific regulatory policies targeting airline operators may differ bringing about significant difference in the deployment of e-ticketing by airline operators and performance.

Olaniyi *et al.* (2010) researched on the development of a mobile airline reservation and payment system in Nigeria using technology acceptance model and descriptive survey design. Data were collected using interviews. The study concluded mobile airline reservation has plaid significant role in airline payment system as it can have a significant impact on how well scheduled and unforeseen activities are completed. There exists a methodological gap because the study employed descriptive and content analysis in studying mobile airline reservation and payment system in Nigeria. The current study determined the effect of e-ticketing on performance of airline operators using multiple linear regression.

Marfo and Quansah (2020) investigated the variables affecting the utilization of electronic ticketing in Ghana's bus transportation industry using a cross-sectional survey approach. Subjective norms and perceived usefulness positively affected the desire to purchase e-tickets. The marketing tools including media advertisements positively affected the desire to purchase e-ticket. In predicting passengers' perceived utility of implementing an e-ticketing system, it was determined that perceived ease of use and subjective norms were crucial. However, the study presented contextual as it focused on electronic ticketing in Ghana's bus transportation industry. Policies on bus e ticketing and airline e ticketing may differ. In addition, methodological gap exists because it employed descriptive and exploratory cross-sectional design whereas this study employs only descriptive research design.

Using importance and performance model, Mambu and Pandowo (2019) studied on the evaluation of Manado, Indonesian quality online service system sales of lion airline tickets. The study concluded that the responsiveness of Lion Air's booking system is critical to its customers and of high importance and affects performance. In addition, the reliability of the booking system is also critical as it affects the attitude and the intention to use the online booking system. The study presented contextual and conceptual and gaps. The country specific regulatory policies targeting airline operators may differ bringing about significant difference in the deployment of e-ticketing by airline operators and performance hence contextual gap.

Rahman *et al.* (2023) researched on airline ticket online reservation system in Pakistan employing Technology Acceptance Model using a descriptive research approach and a target population was 24 airline operators in Pakistan. The study concluded that the airline industry has adopted internet technology in airline reservation system using technology. Thus, customers are able to online book flights via the company's or third parties' websites is easily possible. The number of passengers traveling has grown due to airline competition, accessibility and availability of flight offers and declining ticket prices throughout time. The current study aims to bridge the contextual and conceptual gaps identified in the study. The country specific regulatory policies targeting airline operators may differ bringing about significant difference in the deployment of e-commerce by airline operators and performance hence contextual gap. In addition, methodological gap exists because the study used a smaller sample size, which may limit the validity and generalization of the sample population.

La *et al.* (2021) undertook a study focusing on the effect of digital technologies on airline operations in Australia. Primary data from a sample of 389 respondents was collected using questionnaires. It was found that improving customer in-flight experience becomes an important issue for airlines. Digitization has drastically changed the way of life as well as the business strategies of the various airline. The industry has widely made use of the technology in booking and reservations. There exist conceptual gap and contextual because the study looked at of digital technologies on airline operations in Australia whereas the current study focuses at influence of e-ticketing on performance of airline operators in Kenya.

Azzolina *et al.* (2021) investigated price discrimination in the online airline market in Italy by adopting the conventional economic theory using experimental research design and a target population included 1939 records. The outcomes indicated that in the recent past, the airlines are suspected of utilizing data to exploit data and effect price discrimination. Airlines may directly communicate with customers to learn more about their wants and preferences. The study presented conceptual and methodological gaps that the current study seeks to fill. There exists methodological gap because the study recommended the need for e-marketing in the airline industry but did not determine the effect of e-marketing on performance of airline operators. The presence of conceptual gap from the absence of e-ticketing and how it influences performance of airline operators.

An illustrative evaluation of external factors that influence of performance of Kenya Airways, in Kenya was conducted by Yadav and Goriet (2022) using a descriptive survey design on 182 Kenya Airways workers. Primary data was used and the questionnaires. The findings show a substantial positive association between an airline's performance and external influences. There was a high positive association between the performance of an airline and political stability, workplace concerns, job morale, trade conflicts, tariffs, tariff compliance, government taxes and fines, and air service agreements. There exists conceptual gap because the study the study was focused at identifying factors affecting performance of Kenya airline operators, in Kenya. However, the current study delved to effect of e-ticketing on performance of airline operators.

3. Methods

The study utilized positivism research philosophy. A research philosophy entails a belief about a way of gathering, analyzing and using data about a phenomenon. It guides scientific discoveries through principles and assumptions (Shirima, 2020). The philosophy that relies on a hypothetic deductive method in verifying hypotheses that are often stated quantitatively, where functional

relationships can be derived between causal and explanatory factors. The philosophy was relevant in guiding the study in determining the relationship between e-ticketing and financial performance of selected airline operators in Kenya (Park et al., 2020).

The study also used correlational research design in its analysis. This is because the study determined the relationship between e-ticketing and financial performance of Kenya airline operators. Correlational research design describes a situation or a phenomenon accurately by determining the relationships between variables. The target population for the study were the airline operators in Kenya with established e-commerce systems. Thus, the target population were 15 selected airline operators. The unit of observation were the employees of the selected airline operators working within the e-ticketing section sections as per the distributions outlined (Kenya Airports Authority, 2023). Yamane formula was used in calculating the sample size of 376 respondents.

Table 1: Sample Size

Airline operator	**Target population**	**Sample size**
Kenya Airways	3,825	230
Jambo Jet	535	32
Skyward Express	50	3
Safarilink	251	15
748 air services	250	15
Astral Aviation	151	9
Bluebird Aviation	100	6
Dac Aviation	163	10
Fly SAX aviation	38	2
Skyward Express	50	3
African Express Airways	107	6
Fly540	501	30
Airkenya Express	165	10
Jetways airlines	33	2
Blue Sky Aviation Services	43	3
Total	**6,262**	**376**

Source: Researcher, 2024

Purposive sampling was used to select the airlines that participated in the study. This is because selected airline operators participated in the study. Stratified random sampling was used in the selection of the sample employees who participated in the study. Primary data was utilized by the study. Primary data are deemed first-hand information from the study unit observation and thus was provide useful in studying e-commerce application and financial performance of Kenya airline operators. The data was gathered primarily using a structured questionnaire. Thus, 376 questionnaires were prepared and administered. Before the actual data collection exercise, pilot study was conducted to determine the reliability and validity of the data collection instrument. 10% of the sample size (38 respondents) participated in the pilot study. Those who were contacted in the pilot study did not take part in the final study. The results of the pilot test was of importance in improving the data collection instrument. Cronbach's Alpha method was utilized in testing reliability whereby values > 0.7 implied that the data collection instrument is reliable. Content

and construct validity were measured in the study. For content validity, the input of the supervisor and other experts was sought to improve the contents of the data collection instrument. For construct validity, the researcher conducted Kaiser–Meyer–Olkin (KMO) tests. The variables with factor loadings greater than 0.7 are allowed.

Prior to collecting data, permissions was sought from the university, NACOSTI and the Kenya Airports Authority to carry out data collection. The questionnaires were improved based on the outcomes of the pilot study. The researcher then recruited two research assistants who assisted in administration and collection of the questionnaires. The research assistants were trained on the research ethics before being deployed. The data collection instruments were dropped and picked later to allow the respondents ample time to complete the questionnaires.

Since the questionnaire had both closed and open ended questions, qualitative and quantitative data analysis was conducted. The quantitative data was analyzed using SPSS software and the results presented as descriptive and inferential outcomes in form of tables and charts. However, content analysis was utilized in analyzing the responses for the open-ended questions through the categorization of the logical structure expressions as well as the phrases. Analysis of regression was carried out to determine the influence of e-ticketing services on financial performance of airline operators in Kenya. The multiple regression model provided below was used. The model estimated was;

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$

Where,

Y is financial performance of airline operators in Kenya, β_0, β_1 are constant terms, X_1 represent e-ticketing services, e represented the error term.

The overall model significance was checked using ANOVA. A critical p value of 0.05 was used to ascertain whether the model is significant or not. In addition, the calculated F value was compared with the critical F value from the F tables under the same degrees of freedom to ascertain the significance of the model. Both significant tests should produce the same results and conclusions. Furthermore, a critical p value of 0.05 was used to explore the significance of the individual regression coefficients.

Diagnostic tests was carried out in the study to explore if the data collected in the study is suitable to perform other analysis such as regression analysis, which is critical in meeting the objectives of the research. The tests that were conducted include multicollinearity tests, normality tests and the tests for heteroscedasticity. The test for multicollinearity was effected using the Variance Inflation Factor method. A VIF values > 5 implies the presence of multicollinearity or otherwise the absence (Kim, 2019). Normality tests was conducted using Skewness and Kurtosis. A computed p-values >0.05 would imply that the data set collected follows normal distribution and hence fit for further analysis (Mishra *et al.*, 2019). The tests for heteroscedasticity was carried out employing Wooldridge tests. With this, large Chi2 values would imply the presence of heteroscedasticity (Rosopa *et al.*, 2013).

4. Results

4.1 Response Rate

The sample size of the study was 376 respondents. Thus, a total of 376 questionnaires were administered to the respondents. However, 271 respondents dully filled and returned questionnaires, representing a response rate of 72.07%, which is considered adequate for a research study.

Table 2: Response Rate

	Frequency	Percent
Response	271	72.07
Non-Response	105	27.93
Total	**376**	**100**

4.2 Descriptive Results for E-Ticketing

A summarized table outlining the descriptive outcomes of the questions on e ticketing is presented in the subsequent section. Primary data was utilized in the study. The data was collected using a structured questionnaire. The responses were measured on a Likert scale of 1-5 where; 5 represents strongly agree, 4 agree, 3 neutral, 2 disagree and 1 strongly disagree.

Table 3: Descriptive Results for E-Ticketing

	SD	D	N	A	SA		
	f %	f %	f %	f %	f %	M	S Dev
The utilization of e-ticketing offers enhanced number of tickets purchased	37 13.7%	23 8.5%	60 22.1%	76 28%	75 27.7%	3.5	1.3
E-tickets are more reliable and has significantly improved ticketing	28 10.3%	30 11.1%	52 19.2%	78 28.8%	83 30.6%	3.6	1.3
The adoption of e-tickets has seen the airline operators save on the costs of providing paper tickets	25 9.2%	33 12.2%	51 18.8%	81 29.9%	81 29.9%	3.6	1.3
There is improved passenger security as the e-tickets are always accessible online for easy traceability	29 10.7%	33 12.2%	44 16.2%	82 30.3%	83 30.6%	3.6	1.3
The utilization of e-tickets has seen increased convenience to the customers	37 13.7%	27 10%	42 15.5%	77 28.4%	85 32.5%	3.6	1.4
With the adoption of e-tickets, there is increased accountability in ticketing	33 12.2%	26 9.6%	56 20.7%	76 28%	80 29.5%	3.5	1.3
With e-tickets, the customers are able to identify the available seats	29 10.7%	30 11.1%	53 19.6%	92 33.9%	67 24.7%	3.5	1.3
Aggregate Mean and SD						**3.6**	**1.3**

From the results, 76(28%) of the respondents agreed that the utilization of e-ticketing offers enhanced number of tickets purchased. 75(27.7%) recorded a strong agreement with the statement while 60(22.1%) did not take sides regarding the statement with a mean of 3.5 and a respective standard deviation of 1.3 implying that on average, the responses were in tandem. On whether e-tickets are more reliable and has significantly improved ticketing, the responses indicated that 78(28.8%) of the respondents concurred, 52(19.2%) being neutral and 83(30.6%) recording a strong concurrence with a mean and standard deviation of 3.6 and 1.3.

Furthermore, 81(29.9%) of the responses were in tandem that the adoption of e-tickets has seen the airline operators save on the costs of providing paper tickets. 81(29.9%) recording strong concurrence and 51(18.8%) did not take sides with a mean of 3.6 and a corresponding SD of 1.3 implying that on average, there was concurrence among the responses. 44(16.2%) of the study participants did not take position on whether there is improved passenger security as the e-tickets are always accessible online for easy traceability. However, 82(30.3%) were in tandem with 83(30.6%) strongly concurring with a mean and standard deviation of 3.6 and 1.3. This gives the implication of a concurrence among the responses on average.

Concerning the statement, the utilization of e-tickets has seen increased convenience to the customers, 77(28.4%) of the participants were in tandem, 85(32.5%) recording a strong view with 42(15.5%) being neutral. The mean and SD recorded by the question were 3.4 and 1.4 meaning that, on average the respondents concurred. 76(28%) of the respondents pointed to an agreement that with the use of e-tickets, there is increased accountability in ticketing, while 80(29.5%) strongly concurred in the question and 56(20.7%) being neutral with a mean of 3.5 and SD of 1.3 indicating that overage, the respondents were neutral.

Finally, 92(33.9%) of the respondents agreed that with e-tickets, the customers are able to identify the available seats while 53(19.6%) taking a neutral stand and 67(24.7%) indicating a strong agreement with a mean of 3.5 and SD of 1.3 respectively. The aggregate mean and standard deviation for the statements on e-ticketing was 3.5 and 1.3 respectively an implication that the statements were in concurrence on average with the statements on e-ticketing by the selected airline operators in Kenya.

4.3 Diagnostic Tests

Diagnostic tests was carried out in the study to establish if the data collected in the study is suitable to perform other analysis such as regression analysis, which is critical in meeting the objectives of the research. Failure to conduct assumptions of classical linear regression model and diagnostic tests may result to inaccurate parameter estimates of the model. The tests included multicollinearity tests, normality tests and the tests for heteroscedasticity.

The test for multicollinearity was effected using the Variance Inflation Factor method. A VIF values > 5 implies the presence of multicollinearity or otherwise the absence (Kim, 2019).

Table 4: Multicollinearity Test Results

	Collinearity Statistics	
	Tolerance	**VIF**
(Constant)		
E-Ticketing	0.819	1.222

From the outcomes, the VIF value for e-ticketing was <10 implying the absence of multicollinearity in the data set (1.222<5).

Normality tests was conducted using Kolmogorov Smirnov test. A computed P values >0.05 would imply that the data set collected follows normal distribution and hence fit for further analysis (Mishra *et al.*, 2019). Normality test results are outlined in Table 5.

Table 5: Normality Test Results

	Kolmogorov-Smirnov Statistic	df	Sig.
Financial Performance	0.081	270	0.112
E-Ticketing	0.076	270	0.263

It can be observed from the outcomes that all the significance values for e-ticketing was >0.05 (0.112>0.05). Hence, the study makes the conclusion that the data follows a normal distribution and hence can be used for further analysis.

The tests for heteroscedasticity was carried out employing Wooldridge tests. With this, large Chi2 values would imply the presence of heteroscedasticity (Rosopa *et al.*, 2013).

Table 6: Heteroscedasticity Test Results

Ho: Constant variance
Variable: Financial Performance
chi2(1) = 0.146
Prob > chi2 = 0.1023

The outcomes postulate that with a relatively smaller Chi square of 0.146, then the results imply that heteroscedasticity is absent.

4.4 Inferential Statistics

Correlation serves to determine the direction and strength of relationship between e-ticketing services and financial performance of selected airline operators in Kenya.

Table 7: Correlation Results

		Financial Performance	E-Ticketing
Financial Performance	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	271	
E-Ticketing	Pearson Correlation	.551**	1
	Sig. (2-tailed)	0.000	
	N	271	271

It can be noted that e ticketing had a positive and significant statistically correlation with the financial performance of selected airline operators in Kenya (r=0.551, p=000<0.05). Hence, e ticketing has positively impacts on financial performance of selected airline operators in Kenya.

Regression analysis was carried out to determine the linear relationship between e-ticketing and the financial performance of selected airline operators in Kenya.

Table 8: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.793a	0.629	0.623	0.68394

a Predictors: (Constant), E-Ticketing,
b Dependent Variable: Financial Performance

From the results, the estimated model explains to a tune of 62.9% of the total variations in the financial performance of selected airline operators in Kenya. The R Squared value of 0.629 in the model supports this. Hence, e-ticketing is significant in explaining the financial performance of selected airline operators in Kenya. Table 9 presents the analysis of variance results.

Table 9: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	210.911	1	52.728	112.72	.000b
Residual	124.429	269	0.468		
Total	335.34	270			

The results imply that the estimated model is statistically significant as supported by the calculated p value of 0.000<0.05 and the calculated F value (112.72) less than the F critical in the F tables. The estimated results can hence be used to make reliable inference. Table 10 presents the estimates of the regression coefficients.

Table 10: Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-0.402	0.167		-2.41	0.017
E-Ticketing	0.245	0.036	0.258	6.847	0.000

The dependent variable was the performance of selected airline operators in Kenya. The independent variables included e-ticketing, e-marketing, e-cargo ordering and e-payment. From the analysis results, the coefficient for e ticketing was statistically significant (0.000<0.05) and positive 0.245. Hence, improving in e ticketing by the selected airline operators in Kenya by a unit yields significant 0.245 units improvement in their financial performance. Thus, e ticketing determines significantly the financial performance of selected airline operators.

5. Discussion

The study conducted a correlation analysis to determine the direction and strength of relationship between e-ticketing services and financial performance of selected airline operators in Kenya. From the results, e ticketing had a positive and significant statistically correlation with the financial performance of selected airline operators in Kenya ($r=0.551$, $p=000<0.05$). Hence, e ticketing has positively impacts on financial performance of selected airline operators in Kenya. Regression analysis was carried out to determine the linear relationship between e-ticketing and the financial performance of selected airline operators in Kenya. From the analysis results, the coefficient for e ticketing was statistically significant ($0.000<0.05$) and positive 0.245. Hence, improving in e ticketing by the selected airline operators in Kenya by a unit yields significant 0.245 units improvement in their financial performance. Thus, e ticketing determines significantly the financial performance of selected airline operators. The results are consistent with the findings of Kuhil and Temesgen (2020) which indicated Perceived ease of use, perceived usefulness, relative advantage, perceived behavioural control, awareness, perceived risk and perceived trust all have a positive and significant effect on the usage of e-ticketing. Gabor *et al.* (2022) further identified highlighted a number of factors influencing e-tickets including quality on in-flight service, frequent flyer programs, schedule convenience, demand and operational factors, income and market structure fuel costs, seasonality and the type of market. The findings of Islam (2023) further indicated that subjective norm and ease of use have positive significant correlation with intention and attitude to use e-ticketing. However, concern of privacy significantly and negatively associates with e-ticketing intention and attitude. Although e-ticketing intention is not significantly correlated with perceived use, attitude is. E-ticketing adoption behavior is significantly influenced by attitude, which modifies the links between e-ticketing intention and other dimensions (subjective norm, simplicity of use, and privacy concern).

6. Conclusion

The study concludes that e ticketing positively impact on financial performance of selected airline operators in Kenya. Therefore, a unit increment in e ticketing by the selected airline operators in Kenya would yield significant units improvement in their financial performance. Hence, e ticketing determines the financial performance of selected airline operators significantly. The intention to use e ticketing is influenced by demographic variables, perceived behavioural control, experience, internet usage, personal trust disposition, trust, subjective norm, perceived security, perceived privacy, perceived enjoyment, ease of use, risk and usefulness. E tickets are influenced by quality on in-flight service, frequent flyer programs, schedule convenience, demand and operational factors, income and market structure fuel costs, seasonality and the type of market.

References

Azzolina, S., Razza, M., Sartiano, K., & Weitschek, E. (2021). Price discrimination in the online airline market: an empirical study. *Journal of Theoretical and Applied Electronic Commerce Research*, *16*(6), 2282-2303.

Behl, A., Dutta, P., Sheorey, P. A., & Rowley, C. (Eds.). (2022). *Changing Face of E-commerce in Asia* (Vol. 1). World Scientific.

Çallı, L., & Çallı, F. (2023). Understanding airline passengers during covid-19 outbreak to improve service quality: topic modeling approach to complaints with latent dirichlet allocation algorithm. *Transportation Research Record*, *2677*(4), 656-673.

Connor, B. (2019). Impact of E-commerce on the Airline Industry. Available at https://www.ivoryresearch.com/samples/impact-of-e-commerce-on-the-airline-industry/#:~:text=To%20survive%20in%20the%20modern,systems%20that%20can%20optimise%20revenue. https://www.ivoryresearch.com/samples/impact-of-e-commerce-on-the-airline-industry/#:~:text=To%20survive%20in%20the%20modern,systems%20that%20can%20optimise%20revenue.

Gabor, M. R., Kardos, M., & Oltean, F. D. (2022). Yield Management—A Sustainable Tool for Airline E-Commerce: Dynamic Comparative Analysis of E-Ticket Prices for Romanian Full-Service Airline vs. Low-Cost Carriers. *Sustainability*, *14*(22), 15150.

George, G., McGahan, A. M., & Prabhu, J. (2012). Innovation for inclusive growth: Towards a theoretical framework and a research agenda. *Journal of management studies*, *49*(4), 661-683.

Haider, M., & Kreps, G. L. (2004). Forty years of diffusion of innovations: utility and value in public health. *Journal of health communication*, *9*(S1), 3-11.

Helmy, O. (2018). Airline Carriers E-Ticketing Mechanism Utilizing Online Reservations Management System. *International Journal of Tourism and Hospitality Management*, *1*(1), 132-151.

Islam, M. N. (2023). Factors affecting adoption of self-service E-ticketing technology: A study on heritage sites in Bangladesh. *Heliyon*, *9*(3).

Kaminski, J. (2011). Diffusion of innovation theory. *Canadian Journal of Nursing Informatics*, *6*(2), 1-6.

Kim, J. H. (2019). Multicollinearity and misleading statistical results. *Korean journal of anesthesiology*, *72*(6), 558-569.

Kuhil, A. M., & Temesgen, R. (2020). Factors Affecting the Use of Online Flight Booking in Ethiopian Airlines. *Business and Management*, *12*(3).

La, J., Bil, C., & Heiets, I. (2021). Impact of digital technologies on airline operations. *Transportation Research Procedia*, *56*, 63-70.

Mambu, A. C., & Pandowo, M. (2019). Evaluating the Online Service Quality System on Lion Airline Tickets Sales in Manado Using Importance and Performance. *Jurnal Emba: Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi*, *7*(1).

Mantey, N., Naidoo, V. & Darwish, S. (2021). Strategies for New Technologies in Improving Service Quality: Reflections on the Airlines Owned By South Africa. *Academy of Strategic Management Journal, 20(2),* 1-8.

Marfo, P. K. T., & Quansah, E. (2020). Factors influencing the adoption of e-ticketing system in the bus transport sector in Ghana. *Journal of Software Engineering and Applications*, *13*(08), 161.

Mishra, P., Pandey, C. M., Singh, U., Gupta, A., Sahu, C., & Keshri, A. (2019). Descriptive statistics and normality tests for statistical data. *Annals of cardiac anaesthesia*, *22*(1), 67.

Niazi, A. K. (2021). Factors Affecting Airlines E-Ticket Purchase Intent in Covid-19 Pandemic. *Indian Journal of Economics and Business*, *20*(1), 351369.

Olaniyi, O. M., Ajose, S. O., & Adegoke, M. A. (2010). Development of a mobile airline reservation and payment system. *International Journal of Electronic Finance*, *4*(4), 372-389.

Olsson, P., Moore, M. L., Westley, F. R., & McCarthy, D. D. (2017). The concept of the Anthropocene as a game-changer: a new context for social innovation and transformations to sustainability. *Ecology and Society*, *22*(2).

Park, Y. S., Konge, L., & Artino Jr, A. R. (2020). The positivism paradigm of research. *Academic medicine*, *95*(5), 690-694.

Peixoto, M., Castro, A. C., & Nascimento, P. P. (2015). Roger's theory of diffusion of innovations and institutional changes in Brazilian rural advisory services. In *Área de Informação da Sede-Artigo em anais de congresso (ALICE)*. In: World Interdisciplinary Network for Institutional Research, 2015, Rio de Janeiro. Anais... Rio de Janeiro: World Interdisciplinary Network for Institutional Research, 2015. v. 1. p. 1-21.

Rahman, U. U., Ullah, R., & Jan, S. U. (2023). Airline Ticket Online Reservation System. *Available at SSRN 4354568*.

Rosopa, P. J., Schaffer, M. M., & Schroeder, A. N. (2013). Managing heteroscedasticity in general linear models. *Psychological methods*, *18*(3), 335.

Shirima, F. (2020). Chapter three: research methodology 3.1 Introduction.

Statista (2022). Retail e-commerce sales as share of retail trade in selected European countries from 2014 to 2022. https://www.statista.com/statistics/281241/online-share-of-retail-trade-in-european-countries/

Yadav, D. K., & Goriet, M. O. (2022). An Illustrative Evaluation of External Factors That Affect Performance of an Airline. *Journal of Aerospace Technology and Management*, *14*, e1122.