Int Journal of Social Sciences Management and Entrepreneurship 7(2): 593-606, 2023

ISSN 2411-7323

www.sagepublishers.com

STRATEGIC INNOVATIONS AND PERFORMANCE OF AIRLINES IN KENYA

[1] Ayodo Collins Ochieng', [2] Dr. Deya Jared (PhD)

[1] Masters of Business Administration (Strategic Management), Jomo Kenyatta University of Agriculture and Technology, Kenya

[2] Lecturer, Jomo Kenyatta University of Agriculture and Technology, Kenya

ABSTRACT

This study sought to investigate the relationship between strategic innovations and performance of airlines in Kenya. The study was guided by the following specific objectives: to determine the influence of technological innovations on performance of airlines in Kenya, to ascertain the influence of service innovations on performance of airlines in Kenya. The population of the study was all the registered 59 local airline companies in the aviation industry in Kenya. The respondents of the study was composed of Top Management level, Middle/ Business Management level and Lower/Functional Management level of all the 59 airline firms registered in Kenya, by use stratified and purposive sampling. The study used a descriptive research design to measure the influence of strategic innovations on performance of airlines. The study used structured questionnaire to collect primary data and audited reports from the airline industry in Kenya for secondary data. The Statistical Package for Social Sciences version 23 used to analyze data. Inferential statistics was used to establish the relationships that existed between the variables. The correlation coefficient was used to measure the relationship between independent variables and dependent variable while the regression analysis was used to measure the strength between the independent and dependent variables. Data is presented in form of tables, graphs and charts. The study found strong positive correlation between strategic innovations (technological innovations and service innovations) with performance of airlines in Kenya. The correlation determination indicated that strategic innovations jointly accounted for 41% of the performance of airlines in Kenya. From the findings the study concludes that strategic innovations (technological innovations and service innovations) have significant positive correlation with performance of airlines in Kenya. The study recommends that there is need for the management of airlines in Kenya to adopt modern technologies in the airline industry.

Key Words: Strategic innovations, Technological innovations, Service innovations, Performance of airlines

Background of the study

The airline industry is a crucial player in the Kenyan economy; it facilitates trade, investment and tourism. Due to significant increase in competition within the industry, airline firms need to adopt innovative strategies in order to remain competitive and increase their overall performance. Strategic innovation is the the creation and implementation of products, business models, processes and services that come up with sustainable competitive advantage. However, despite the presence of several benefits attached to strategic innovations, the actual adoption of such innovations has been limited among Kenyan airline firms. A number of factors impede the adoption of strategic innovations in the Kenyan airline industry, like limited access to capital, regulatory challenges, inadequate human resource capacity, inadequate infrastructure and lack of proper awareness among airline firms about the benefits of strategic innovations.

Jin,(2018), defines strategic innovation as a future-focused development framework that identifies breakthrough growth opportunities, accelerates business decisions and creates near-term, measurable impact within context of a large term vision for sustainable competitive advantage. Strategic innovation is one of the fundamental instruments of growth strategies to enter new markets, to increase the existing market share (Nybakk & Jenssen, 2019). Strategic innovation is critical for firms that are in pursuit of improved performance and their reward is often an increase in their profits and their market share (Truong, Simmons, Grinstein & Palmer, 2017). The four different types of strategic innovations include service innovation, process innovation, marketing innovation and technological innovation (Chen, Hsiao, Chen & Lee, 2018).

A Successful organization knows the significance of strategic innovation in business (Kasemsap, 2017). Apple is a good example of how effective strategic innovation practice can improve your products and scale up your business. After reaching on the brink of collapse, it achieved new heights of success by implementing effective innovation management policy. According to Futterer, Schmidt and Heidenreich (2018), Innovative organizations are never complacent with their success. They always look for creative and novel strategies that could help them develop their working processes and enhance their products. As they are always open to new ideas, they are able to develop creativity around their working approach which enables them to serve their clients with better products.

Ravichandran (2018) argues that truly successful innovative organizations integrate an effective IT infrastructure that enables smooth flow of information. Such a system ensures a seamless sharing of information and access to ideas which results in higher collaboration and better engagement across the organization. All innovation-friendly organizations practice a seamless systems and processes that support creativity at every step. For a successful innovation strategy, all your processes and systems have to merge together to make your ideas a reality. Geissdoerfer, Vladimirova and Evans (2018) asserts that too many innovations that aren't perfect the first time never get a second look, and die an expensive death. Others get caught in analysis paralysis, and never get exposed to real customers.

Statement of the Problem

The Airline industry in Kenya is faced by several challenges. According to Mutema (2016), in the State of the Kenya Airline Industry article, the challenges being faced include diminishing market potential, high fuel prices, safety records, need for skilled human resources, internal liberalization, high taxes and the environment. While looking at the market capacity and potential perspective, intercontinental capacity to and from Africa by African airlines currently stands at 36.4% compared with 63.6% by non-African airlines mainly from Europe, the Middle East and lately

North America and Asia. As a result of this intense competition on the intercontinental routes, the best opportunities for expansion and growth for African airlines lies in the African regional and domestic markets which have not reached yet.

In addition, Gichohi (2015) observed that oil prices have been unpredictable and the world economy's growth rate has slowed. Currently prices (with Brent crude oil prices expected to be slightly over US$100 a barrel in 2012), jet fuel prices have a huge negative impact on airline profitability. Various strategies have been pursued to gain competitive advantage. Airlines in Kenya have embraced formation of strategic alliances with other organizations to be able to compete effectively in the global arena (Kahavya, 2015).

Despite the notable contribution of the airline industry to the Kenyan economy, airline firms in Kenya have been facing numerous problems. Some of the major problems faced by these airline firms are the restricted adoption of of strategic innovations which are very key in increasing their performance, some airline firms have adopted innovative strategies, while others have not resulting to inconsistency in the performance of different airlines. According to study put forward by Kipkoech et al.(2020), Kenyan aviation industry faces intense competition from both local and international airlines which has resulted to reduced profit margins caused by price wars. Therefore for an airline to remain competitive there is a serious need to adopt strategic innovations like innovative marketing strategies, improved customer service and new technologies. Mneenop and Kotcharin (2020), postulated that Covid - 19 pandemic extremely affected airline firms globally. Lack of strategic renewal and adoption of market based initiatives has significantly affected the sustainability of the airline industry globally (Thendu, 2020).

According to IATA (2019), Kenya aviation industry accounts for 4.6 per cent of Kenya's GDP, but to ensure the consistent development, there is need to improve on infrastructure, connectivity, safety and technology which is lacking. The Airline industry in Kenya is faced by several challenges. According to Mwaura et al.(2020), rising fuel prices is a major challenge for airlines in Kenya and therefore there is need to adopt strategic innovations like use of fuel-efficient aircraft and look for alternative fuel sources in order to mitigate the impact of rising fuel prices on general performance of the airlines.

Farah, Munga and Mbebe (2018) in their study concluded that strategic innovations contributed significantly on the performance of the other major organization. Strategic innovation studies have been carried out in the Kenya however most of studies have concentrated on the larger organizations such commercial banks (Gikonyo, 2018). Previous studies have produced contradicting results regarding the impact of strategic innovations on organization's performance. Some scholars argue that firms possessing the strategic innovations that other firms do not possess will achieve high performance (Seo, 2020). Scholars asserting the contrary specify that less innovative products are less uncertain and may possess more synergy, leading them to be more successful. There is a knowledge gap on the relationship between strategic innovations and performance of airlines in Kenya. It is against the background of the study that this study seeks to investigate influence of strategic innovations on performance of airlines in Kenya.

Objectives of the Study

The general objective of the study is to investigate influence of strategic innovations on performance of airlines in Kenya.

i) To determine the influence of technological innovations on performance of airlines in Kenya.
ii) To ascertain the influence of service innovations on performance of airlines in Kenya.

LITERATURE REVIEW

Theoretical Literature Review

Technology Acceptance Theory

The Technology Acceptance Theory (Davis, 1989), posits that there are two factors that determine whether a computer system will be accepted by its potential users: (1) perceived usefulness, and (2) perceived ease of use. The key feature of this model is its emphasis on the perceptions of the potential user. The goal of Technology Acceptance Theory is to explain the general determinants of computer acceptance that lead to explaining users' behavior across a broad range of end-user computing technologies and user populations.

The basic TAM model included and tested two specific beliefs: Perceived Usefulness (PU) and Perceived Ease of Use (PEU). Perceived Usefulness is defined as the potential user's subjective likelihood that the use of a certain system (e.g: single platform E-payment System) will improve his/her action and Perceived Ease of Use refers to the degree to which the potential user expects the target system to be effortless (Davis,1989). The belief of the person towards a system may be influenced by other factors referred to as external variables in TAM.

Venkatesh and Davis (2000) provided more detail explanations for the reasons users found a given system useful at three (3) points in time: pre-implementation, one month post-implementation and three month post-implementation. TAM theorizes that users' mental assessment of the match between important goals at work and the consequences of performing job tasks using the system serves as a basis for forming perceptions regarding the usefulness of the system (Venkatesh & Davis, 2000). The results revealed that TAM performed well in both voluntary and mandatory environment.The information-sharing aspect of technology-supports adoption of marketing innovations considered advantageous for facilitating team communication in a way that supports coordinated and collaborative care among the interdisciplinary team.

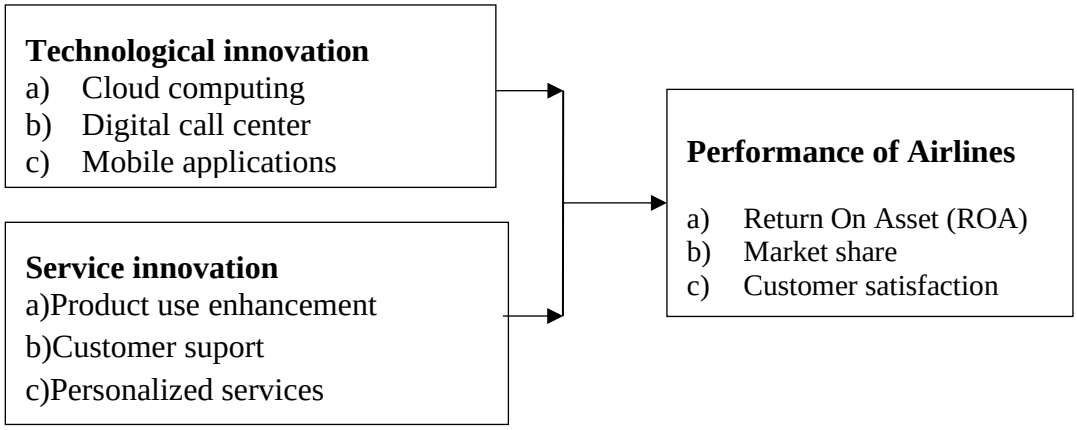
This theory is applicable to this study in that, it assumes that the application of an information system is dependent on behavioral aim and the behavioral intention is dependent on the individual attitude towards the introduction of the system and hence affects the adoption of an innovation. According to Davis, the approach of a person is not the only an aspect that determines the use of system, but is also founded on the effect which may have on the Apart from Technology Acceptance Model (TAM) a positive relationship between perceived importance and perceived easy usage. With two systems giving the same characteristics, a client will find more beneficial the one that he discovers it is easier to use (Dillon & Morris, 2013). It is therefore important to note that the study presented by Davis (2009) to authenticate his model, proves that the relationship between the need to apply an information system and perceived importance is stronger than perceived easy usage. The theory supports the variable on the effect of technological innovation on firm performance.

According to Davis, the approach of a person is not the only an aspect that determines the use of system, but is also founded on the effect which may have on the Apart from Technology Acceptance Model (TAM) a positive relationship between perceived importance and perceived easy usage. With two systems giving the same characteristics, a client will find more beneficial the one that he discovers it is easier to use (Dillon & Morris, 2013). It is therefore important to note that the study presented by Davis (2009) to authenticate his model, proves that the relationship between the need to apply an information system and perceived importance is stronger than

perceived easy usage. The theory supports the variable on the effect of technological innovation on firm performance.

Conceptual Framework

According to (Saunders, Lewis & Thornhill 2019), defined conceptual framework as written or visual relationship between various variables mostly obtained from one or more theories and traces the input-process-output paradigm of the study. (Smith, 2004), refers to conceptual framework as a structure from a set of broad ideas and theories that help researcher to identify a problem, frame their questions and find suitable answer. It as well provide a broad and abstract understanding of a particular phenomenon.



Independent Variable **Dependent Variable**

Figure 1 Conceptual Framework

Technological Innovation

Technological innovation refers to establishment of improved or new technologies that brings onboard outstanding benefits over the existing products. Technological innovation is the way in which an organization can efficiently select, implement and use a technology in comparison with a competitor. Study done by Deloitte, postulated that technological innovations in the airline industry is speedily transforming the manner in which airlines operate and interact with its customers. Cloud computing, mobile applications and digital call centers are some of the key technologies that are driving airline industry transformation (Deloitte, 2016). Airlines are capable of storing and accessing data and various applications over the internet by help of cloud computing which extensively reduces the need for expensive on-premise infrastructure. Digital call centers utilize automation and advanced analytics to reduce cost and improve customer service in general. Mobile applications helps customers a great deal to book flights, receive real-time flight updates, check-in and to access various services on-the-go. Hence these technological innovations helps airlines to improve efficiency, enhance customer experience and reduce costs.

New technological developments are widely discussed in various disciplines. For instance, Ghobakhloo (2018) summarizes the expected areas of application of various technological concepts within the “smart factory” in the manufacturing industry: The internet of things as an umbrella term for independent communication of physical objects, big data as procedure to analyse enormous amounts of data to predict the consequences of operative, administrative, and strategic actions, block chain as the basis for independent, transparent, secure, and trustworthy transaction

executed by humans or machines, and cloud computing as an internet-based flexible infrastructure to manage all these processes simultaneously (Cacio &Montealegre,2016; Ghobakhloo, 2018)

Service Innovation.

Service innovation refers to the development and implementation of new services or improvement of already existing services that better meets needs and preferences of customer while at the same time achieving goals and objectives of the business (Gallouj & Weinstein, 2016). Service innovation encompasses various activities like personalized services, product use enhancement and customer support. Chen (2011). Additionally, policy makers as well as researchers have become increasingly intrigued by service innovation, because they have grown intensely in many industrial economies, and are expected to have a positive effect on the whole economy(Miles, 2015).

Product use enhancement entails the growth of new features or improvement of the already existing features to ensure that the product is more easier and enjoyable to use by the customer. It actually involves the development of new services that supports the use of a product like maintenance or repair services and installation. Customer support implies to various ways in which a company assists its customers having varying concerns, problems and questions with either a service or a product belonging to the company, here it involves developing new support services or simply improving the already existing services to better meet the needs and preferences of the customers like a company offering virtual assistance or chatbot that is capable of providing immediate assistance to the customers with various concerns and questions. Personalized services refers to the act of customizing services to better meet customers' individual needs and preferences. Very few service firms rely on traditional R&D with regard to their innovation activities (Miles, 2016).

Performance of Airlines

Organizational performance refers to the extent to which a particular organization achieves its goals and objectives within a given time frame, while taking into account the resources used to achieve the objectives (Chowdhury, 2017), it is indicated by market share, return on asset and customer satisfaction. Return on assets (ROA) measures profitability of a firm or organization in relation to its assets. Market share is the percentage of total sales of a particular service or product that is captured by the organization. Customer satisfaction refers to the degree customers are satisfied with services and products the organization provides. The organizational performance generally is evaluated through comparing the current status of the organization to industry benchmarks or organization's own historical performance.

Empirical Review

Technological Innovation

Mutie (2018) examined effect of technological innovation on organizational performance of government agencies. The study adopteddescriptive cross-sectional survey design. Primary data was collected by use of questionnaires. The model summary revealed that the independent variables system development enhancement, digital tools and services, information technology based innovations and interdepartmental process integration explains 75.9% of changes in dependent variable as evidenced by R^2 value which implies other factors exist not factored in this model that account for 24.1% of changes in how government agencies perform in Kenya. The correlation analysis results revealed a statistically significant anda positive correlation between system development enhancement and organizational performance of government agencies in Kenya. The study also revealed the existence of significant positive correlation between digital tools and services and organizationalperformance of Government Agencies. Information technology based innovations was also found to have a positive and significant

association with organizational performance of Government Agencies. Wandera, K., & Kisaka, E.(2021) examined technological innovation impact on customer loyalty in the Kenyan airline industry with Kenya Airways as the case study. The study revealed that technological innovation is positively associated to customer loyalty.

According to Hossein, Amir & Seyede (2021), The moment cloud computing is adopted by a company, the problem of personnel failing to work well with the system arises and therefore users are very reluctant in accepting the new system. In an organization where cloud computing is adopted, productivity increases. The study analyzed effective factors on acceptance of cloud computing in Birjand International Airport in south Khorasan country (Iran) using Diffusion of Innovation Theory. Descriptive survey was used targeting personnel working in various departments in the airport. Questionnaire was used, whose validity was determined by Cronbach's Alpha. There are several advantages attached to cloud computing like enhanced server uptime, flexibility and scalability, promote group collaboration, effectiveness and competitive edge. Depending on what they give priority, firms can choose to adopt various cloud services and business processes (Mwikya & Obura, 2021).
According to Huawei (2020) postulate that tourist attraction information, tour package information and fare information fall among the top three uses of the internet. The survey further reveals that travel agencies that have positively adopted the use of internet highlight package prices among other travel related information in helping potential customers to make informed decisions.

Havarneanu and Maris (2018) looked into the effects of technological innovation on the performance of airline companies in Kenya. The study revealed that the performance of the Kenyan airline industry is positively impacted by technological innovations in areas such as customer satisfaction, profitability and revenue. Alosani, Yossuf and Al Dhaafri (2020) examined empirically the joint effect of innovation and strategic planning on organizational performance of Dubai Police. To examine the hypothesized model of the study, a survey questionnaire was used. The data were collected from the general department of total quality of the Dubai Police. The total number of questionnaires distributed was 150, out of which only 95 usable questionnaires were returned and ready for analysis. The regression approach through SPSS was used to analyze the data and test the hypotheses. The statistical results confirm the effect of strategic planning and innovation on the organizational performance of Dubai Police.

Kamau (2019) examined the effects of response strategies on the performance of airlines. The study utilized descriptive research design dwelling on Kenya Airways. The sample size was 93 Kenya Airways employees, questionnaires were used for data collection purposes. The findings indicated that 38.1% of the firm's performance was actually determined by embracing Information Communication Technology, the findings also showed that automation of computers led to increased service delivery speed, better decision making and maximization on time utilization. Nyabwanga, Were, Bosire and Mokaya (2019) investigated the effects of information and communication technologies (ICT) on efficiency of processes in Kenyan airline industry. The study finds that information communication technology is capable of increasing efficiency in various areas like flight operations, cargo operations and passenger handling.

Service Innovation.

Chen (2011) service innovation is contemplated as the evolution of new and important ideas to improvise service effectively. Changli, Ruize and Lin (2020) sought to provide a quantitative review on the service innovation-performance relationship based on research findings reported in the extant literature. Design/methodology/approach Studies from 46 peer-reviewed articles were sampled and analyzed. A meta-analytic approach was adopted to conduct a quantitative review on

the relationship between service innovation and firm performance, and the effects of any potential moderators were further explored. Findings The results found that service innovation has a significant positive impact on firm performance. Additionally, the relationship between service innovation and firm performance is influenced by measurement moderators (economic region and performance measurement), and contextual moderators (firm type, innovation type, customer factors and attitudes toward risk).

Masud, Kong and Diyawu (2019) explored the mediating role of job performance and job satisfaction in the relationship between service innovation and organisational performance. Data for the study was obtained from 250 bank employees in Ghana through structured questionnaire. The PLS-SEM was the main analytical tool used to analyse the research findings. Findings from this study revealed a positive and significant relationship between service innovation and organizational performance. Additionally, the study revealed that employee job satisfaction and productivity positively influence organisational performance. The study further revealed a mediation possibility for job satisfaction and employee productivity in the relationship between service innovation and organisational performance. The implications as well as the theoretical contributions of this study are discussed.

Changli, Ruize and Lin (2020) conducted a quantitative review on the service innovation-performance relationship based on research findings reported in the extant literature. Design/methodology/approach Studies from 46 peer-reviewed articles were sampled and analyzed. A meta-analytic approach was adopted to conduct a quantitative review on the relationship between service innovation and firm performance, and the effects of any potential moderators were further explored. Findings The results found that service innovation has a significant positive impact on firm performance. Additionally, the relationship between service innovation and firm performance is influenced by measurement moderators (economic region and performance measurement), and contextual moderators (firm type, innovation type, customer factors and attitudes toward risk).

RESEARCH METHODOLOGY

The study was carried out through a descriptive research design. A descriptive survey research design is a research design that describes a phenomenon or characteristics associated with a subject population, estimate the proportion of a population that has these characteristics and discover associations among different variables (Creswell,2018). The population of the study was all the registered 59 local airline companies in the aviation industry in Kenya registered by KCAA as of 2022. The respondents was composed of Top management level, Middle/Business management level and Lower/Functional management level in all the 59 airline firms registered in Kenya.The study's sampling framework was derived from the organization's management staff who has the relevant knowledge on different aspects as far as strategic innovation and performance of the organization is concerned, that is; Top management level, Middle/Business management level and Lower/Functional management level in all the 59 firms. Yamane(1967) provides a simplified formulae for calculating sample size. The sample size was 263 respondents.

The study used stratified and purposive sampling in selecting participants from the organization's management staff within the domestic airlines in Kenya. This technique was used in the study, to ensure that only the staff who meet the eligibility requirements are brought onboard to participate in the survey. Structured questionnaires with a 5-point Likert scale was used to collect primary data from the managers. A pilot study is done to disclose weaknesses in instrumentation and design and further provide a representative data for selection of a probability sample (Cooper and Schindler, 2003). (Connelly 2008) stipulated that a satisfactory study sample should be not less than 10% of the projected sample. Those engaged during the pilot study won't be part of the final

study. Pilot test was done to the instruments to measure their test of goodness, test whether the respondents would experience difficulties in understanding various items and also give picture on how the research instruments will perform in the field.

Quantitative data was analyzed using descriptive and Inferential analysis techniques assisted by Statistical Packages for Social Sciences (SPSS Version 25). Descriptive analysis encompassed median scores, percentages, standard deviations, frequencies and mean while inferential statistics incorporated correlation and multiple regression analysis that assisted in the estimation of the level of relationship between the variables. Presentation of the already analyzed data was done using tables.

RESEARCH FINDINGS AND DISCUSSIONS

The study administered 263 questionnaires for data collection. A total of 194 were duly filled and returned representing a response rate of 73.76%. Mugenda and Mugenda (2018) suggested that a response rate of 30-50% is adequate in a study to give reliable results. Thus, the response rate of 73.76% was appropriate for the data analysis in this study.

Descriptive Statistics

The study used measure of central tendency to describe the responses and analyze them. A Likert scale was used where the responses were coded as follows: 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5 = Strongly Agree. The ranges for the mean will be as follows: Strongly Disagree (1-1.8), Disagree (1.9- 2.6), Neutral (2.7-3.4), Agree (3.5-4.2), and Strongly Agree (4.3-5). The results were presented in tables and analyzed and discussed. The descriptive statistics for the study variables are as follows:

Technological Innovations

The first objective of the study was to determine the influence of technological innovations on performance of airlines in Kenya. The study also was guided by the research question 'How does technological innovations influence performance of airlines in Kenya?.

Table 1: Technological Innovations

Technological Innovations Indicators	Mean	Std Dev
Cloud computing technology improved the efficiency of your airline operations	4.31	.61
The use of cloud computing technologies has enhanced the rate of work flow and as well keeps employees connected, digital transformation of the firm.	4.38	.53
Digital call center technology has improved the customer service experience in your airline.	4.39	.77
Our staff feel satisfied when digital technologies are employed when discharging their duties, making digital call center technology to greatly impact on the firm's business growth.	4.23	.73
Use of mobile applications technology has highly improved customer experience and satisfaction.	4.38	.53
Use of mobile application technology has led to general growth in organization performance.	4.52	.54
Average Technological Innovations	**4.36**	**0.62**

The findings from Table 1 revealed that use of mobile application technology has led to general growth in organization performance (M = 4.52, Sd = 0.54). Digital call center technology has

improved the customer service experience in your airline (M = 4.39, Sd = 0.77). The use of cloud computing technologies has enhanced the rate of work flow and as well keeps employees connected, digital transformation of the firm (M= 4.38, Sd = 0.53). Use of mobile applications technology has highly improved customer experience and satisfaction. (M= 4.38, Sd = 0.53). Cloud computing technology improved the efficiency of your airline operations (M =4.31, Sd = 0.61). Our staffs feel satisfied when digital technologies are employed when discharging their duties, making digital call center technology to greatly impact on the firm's business growth. (M= 4.23, Sd= 0.73).

From table 4.14, the study found that technological innovations influence performance of airlines in Kenya (M = 4.36, SD = 0.62). This finding is supported by the work of Kamau (2019) that showed that automation of computers led to increased service delivery speed, better decision making and maximization on time utilization. Nyabwanga, Were, Bosire & Mokaya (2019) found that that information communication technology is capable of increasing efficiency in various areas like flight operations, cargo operations and passenger handling.

Service innovations

The second specific objective of this study was to determine to what extent does service innovations influence the performance of performance of airlines in Kenya. The objective also aimed at answering the research question 'How does service innovations influence performance of airlines in Kenya?'. From Table 2, the study found that service innovations influence the performance of performance of airlines in Kenya (M= 3.83, Sd = 1.411).

Table 2: Service innovations

Service innovations	Mean	Std Dev
Product use enhancement has improved our customer satisfaction	4.29	.68
Our airline ensures the presence of onboard connectivity, seat comfort, healthy food option, in-flight entertainment system, loyalty programs and personalized recommendations, which leads to meeting of customer needs and preferences.	4.20	.81
Our firm often introduces new products and services to enhance customer support.	4.39	.58
Our firm employs Chatbots, which are automated with standard responses to solve most common queries from customers leading to improved availability and response time, thus enhancing customer experience.	3.93	.88
The existence of 24/7 customer support through phone, email, chat, dedicated customer service representatives, on-line self-service options and real-time flight status updates has contributed to improved performance in our airline.	4.50	.55
Personalized service is a major milestone in service delivery in our organization and it brings competitive advantage.	4.24	.66
Personalized services like customized seat preferences i.e extra legroom, window seats, customized meal options for passengers is key in ensuring customer satisfaction.	4.60	.53
Average Service innovations	**3.83**	**1.411**

The study found that personalized services like customized seat preferences I.e extra legroom, window seats, customized meal options for passengers is key in ensuring customer satisfaction (M

= 4.60, Sd = 0.53). The existence of 24/7 customer support through phone, email, chat, dedicated customer service representatives, on-line self-service options and real-time flight status updates has contributed to improved performance in our airline (M = 4.50, Sd = 0.55). Our firm often introduces new products and services to enhance customer support (M =4.20, Sd = 0.81), in addition to product use enhancement has improved our customer satisfaction (M = 4.29, Sd = 0.68). Our airline ensures the presence of onboard connectivity, seat comfort, healthy food option, in-flight entertainment system, loyalty programs and personalized recommendations, which leads to meeting of customer needs and preferences (M = 4.20, Sd = 0.81). This finding is supported by the work of Chen (2011), service innovation is contemplated as the evolution of new and important ideas to improvise service effectively. Changli, Ruize and Lin (2020) sought to provide a quantitative review on the service innovation-performance relationship based on research findings reported in the extant literature. Findings The results found that service innovation has a significant positive impact on firm performance. Additionally, the relationship between service innovation and firm performance is influenced by measurement moderators (economic region and performance measurement), and contextual moderators (firm type, innovation type, customer factors and attitudes toward risk).

Masud, Kong and Diyawu (2019) explored the mediating role of job performance and job satisfaction in the relationship between service innovation and organisational performance. Findings from this study revealed a positive and significant relationship between service innovation and organizational performance. Additionally, the study revealed that employee job satisfaction and productivity positively influence organisational performance. The study further revealed a mediation possibility for job satisfaction and employee productivity in the relationship between service innovation and organisational performance. The implications as well as the theoretical contributions of this study are discussed.

Status of Performance of Airlines in Kenya

The main objective of the study was to investigate influence of strategic innovations on performance of airlines in Kenya. The descriptive statistics aimed and describing performance of airlines in Kenya. The findings from Table 3 established that to some extent, strategic innovations influence performance of airlines in Kenya (M = 4.04, Sd = 0.71).

Table 3: Performance of Airlines in Kenya

Performance of airlines in Kenya	Mean	Std Dev
Our airline has achieved satisfactory return on asset (ROA) compared to industry standards.	3.65	.83
Our airline has clear strategy for improving return on asset (ROA)	3.96	.66
Our airline has strong market share in the industry than other competitors.	3.99	.78
Our airline has clear strategy for increasing market share.	4.13	.66
Our airline has achieved a satisfactory level of customer satisfaction.	4.16	.67
Our airline has clear strategy for improving customer satisfaction.	4.23	.58
Our firm has recorded increased customer retention rate and a boost in brand reputation due to customer satisfaction.	4.20	.76
Average Status of Performance of airlines in Kenya	**4.04**	**0.71**

From Table 3 the study found that our airline has clear strategy for improving customer satisfaction (M = 4.23, Sd = 0.58). Our airline has achieved a satisfactory level of customer satisfaction (M = 4.16, Sd = 0.67). Our firm has recorded increased customer retention rate and a

boost in brand reputation due to customer satisfaction (M = 4.20, Sd = 0.76). Our airline has clear strategy for increasing market share (M = 4.13, Sd = 0.66). Further, our airline has strong market share in the industry than other competitors (M = 3.99, Sd = 0.78). Our airline has clear strategy for improving return on asset (ROA) (M = 3.96, Sd = 0.66).

Inferential Analysis

Analysis of Variance

The analysis of variance was used to examine whether the regression model was a good fit for the data. The F-critical (4, 189) the F-calculated was 32.787 as shown in Table 4.21. This shows that F-calculated was greater than the F-critical and hence linear relationship between the strategic innovations and performance of airlines in Kenya. In addition, the p-value was 0.000, which was less than the significance level (0.05). Therefore, the model can be considered to be a good fit for the data and hence it is appropriate in predicting the influence of the four independent variables (strategic innovations) on the dependent variable (Performance of airlines in Kenya).

Table 4: Analysis of Variance

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	19.607	4	4.902	32.787	.000[b]
	Residual	28.256	189	.150		
	Total	47.863	193			

Dependent Variable: Performance of airlines in Kenya

b. Predictors: (Constant), Technological innovations, Process innovations

Regression Analysis

Further, the study ran the procedure of obtaining the regression coefficients, and the results were as shown on the Table 5.

Table 5: Regression Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	B		
1	(Constant)	1.575	.439		3.591	.000
	Technological innovations	.432	.094	.305	4.592	.003
	Service innovations	.714	.081	.584	8.840	.000

Findings in Table 5 showed that technological innovations had coefficients of estimate which was significant basing on $\beta_1 = 0.432$ (p-value = 0.003 < 0.05). Also, the influence of technological innovations is more than the effect attributed to the error and supported by the t-critical =4.592at a 5 percent level of significance. Technological innovations influences performance by 0.432or 43.2%, thus we conclude that technological innovations significantly influence performance of airlines in Kenya.

Further, the findings in indicate that service innovations had coefficients of estimate which was significant basing on $\beta_3 = 0.714$ (p-value = 0.000 < 0.05). Also, the influence of service innovations is more than the effect attributed to the error as supported by the t values where t-calculated= 8.840at a 5 percent level of significance, thus we conclude that Service innovations significantly influence performance of airlines in Kenya by 0.714 or 71.4%.

Model Summary

In Table 6, the correlation coefficient (R) of 0.410 shows that there is a positive joint correlation between strategic innovations (Technological innovations, Process innovations, Service innovations, & Marketing innovations) with performance of airlines in Kenya. From the study

findings, the correlation determination is R^2 value (0.410). The study results imply that Technological innovations, Process innovations, Service innovations, & Marketing innovations jointly accounted for 41% of the performance of airlines in Kenya as represented by the R^2. This therefore means that other factors not studied in this research contribute 59% performance of airlines in Kenya. This implies that these variables are very significant and need to be factored to performance of airlines in Kenya.

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.640[a]	.410	.397	.38665

a. Predictors: (Constant), Technological innovations, Process innovations,

The first objective of the study was to determine the influence of technological innovations on performance of airlines in Kenya. The study concludes that technological innovation has a significant positive correlation with performance of airlines in Kenya. Technological innovation also has a positive significant influence on performance of airlines in Kenya. The findings also concur with Kamau (2019) found that automation of computers led to increased service delivery speed, better decision making and maximization on time utilization. Nyabwanga, Were, Bosire & Mokaya (2019) found that information communication technology is capable of increasing efficiency in various areas like flight operations, cargo operations and passenger handling.

The second specific objective was to ascertain the influence of service Innovation on performance of airlines in Kenya. The study concludes that service Innovation has a positive significant correlation with performance of airlines in Kenya. The study also concludes that service Innovation have a significant influence on on performance of airlines in Kenya. The findings are in tandem with Masud, Kong and Diyawu (2019) that explored the mediating role of job performance and job satisfaction in the relationship between service innovation and organisational performance. Findings from this study revealed a positive and significant relationship between service innovation and organizational performance.

Recommendations

The first objective of the study was to determine the influence of technological innovations on performance of airlines in Kenya. The study recommends that Top management in airlines should support technological innovation and promote more technological applications that contribute to enhancing the trip experience for travellers and aid in the growth and success of airlines, such as smart robots, AI based improvements, and AI-enabled food waste management systems, biometric technology and the availability of identity management solutions, a smart catering system, technological innovations in the workplace, and the necessity for identifying adopting various competitive strategies to acquire greater market share in the travel market.

The second specific objective was to ascertain the influence of service Innovation on performance of airlines in Kenya. The study recommends that Airlines are service sectors which must make innovation in service in order to obtain the advantages in competition. The research found that experiential services are often designed from the perspective of the customer journey. Innovation in experiential services covers a broad spectrum, taking place in five distinct areas. Based on these, airlines need creative innovation in business model and technologies.

Suggestion for Further Studies

In relation with the results shown above, this study makes a number of possible implications on the influence of strategic innovations on performance of airlines in Kenya. This study has opened

an insight into the influence of technological innovation, marketing innovation, process innovation, and service innovation on performance of airlines in Kenya, thus expanding on previous literature that has focused mainly on strategic innovations. It has opened up further research avenues to compare and contrast these results with other strategic innovations in Kenya and regionally. The current study established that strategic innovations contributed to 41% of performance of airlines in Kenya. Future researchers should consider introducing other factors not covered in this study to establish their influence performance of airlines in Kenya. A further study on the individual countries such as Tanzania, Uganda, and Rwanda counties to find out about the performance of airlines. The study has, however, has contributed knowledge that is needed for this kind of research.

REFERENCES

Aziz, S. B., Abidin, Z. H. Z., & Kadir, M. (2018). Innovative method to avoid the reduction of silver ions to silver nanoparticles in silver ion conducting based polymer electrolytes. Physica Scripta, 90(3), 035808.

Campbell, J. (1995). Outsourcing in maintenance management: a valid alternative to selfprovision, *Journal of Quality in Maintenance Engineering, 1(3), 18-24.*

Carey, P., Subramaniam, N., & Ching, K. C. W. (2006). Internal audit outsourcing in Australia. *Accounting and Finance. Griffith Experts, 46, 11-30.*

Cascio, W. F., and Montealegre, R. (2016). How technology is changing work and organizations. Annu. Rev. Organ. Psychol. Organ. Behav. 3, 349–375. doi: 10.1146/annurev-orgpsych-041015-062352

Chebo, A. K., and Y. F. Wubatie. 2020. "Commercialisation of Technology Through Technology Entrepreneurship: The Role of Strategic Flexibility and Strategic Alliance." *Technology Analysis & Strategic Management* 33 (4): 1–12. doi:10.1080/09537325.2020.1817367.

Chen, S. & Pao, Ch. (2018). Marketing Innovation. ACM, 2017. (pp. 12–17). Taiwan. http://doi.org/10.1145/3107514.3107517.

Farah, H. A., Munga, J. & Mbebe, J. (2018). Influence of competitive strategies on performance of commercial airlines in Kenya: A survey of the airline industry in Kenya, *International Academic Journal of Human Resource and Business Administration, 3(1), 170-189.*

Feng, Changli & Ma, Ruize & Jiang, Lin. (2020). The impact of service innovation on firm performance: a meta-analysis. *Journal of Service Management. ahead-of-print. 10.1108/JOSM-03-2019-0089.*

Ghobakhloo, M. (2018). The future of manufacturing industry: a strategic roadmap toward industry 4.0. J. Manuf. Tech. Manage. 29, 910–936. doi: 10.1108/JMTM-02-2018-0057

Gikonyo, G. P. (2018). *Organisational Resources And Sustainable Competitive Advantage Amongst Selected Firms In The Aviation Industry* In Kenya (Doctoral dissertation, Thesis, Kenyatta University).

Gilbertson, D. (2020). US airlines must continue flying if they accept coronavirus relief. USA Today. [Online]. 31 March. [Accessed 5th May 2020]. Available from: https://www.usatoday.com/story/travel/airlinenews/2020/03/31/coronavirusstimuluspackage-us-airlines-must-continueflying/5093641002/

Gunday, G., Ulusoy, G., Kilic, K., & Alpkan, L. (2018). Effects of innovation types on firm performance. International Journal of production economics, 133(2), 662-676.

Hayes, A (2020), Transport Sector. Investopedia. [online] (Accessed 25th March 2023) Available from: https://www.investopedia.com/terms/t/transportation_sector.asp#:~:text=The%20transportation%20sector%20is%20an,those%20that%20pro vide%20transportation%20infrastructure (Accessed 25th August, 2020)

Jaworski, B.J. & Kohli, A.K.(2020). Market Orientation: Antecedents and Consequences. *Dev. Mark. Orientat. 57, 53–70.*

Medrano, N.; Cornejo-Cañamares, M.; Olarte-Pascual, C.(2020). The Impact of Marketing Innovation on Companies' Environmental Orientation. *J. Bus. Ind. Mark, 35, 1–12*

Okundi, S., & Muchemi, A. (2022). Marketing Innovation Strategy and Entrepreneurial Performance of Small and Medium Enterprises in Nakuru East Town Sub-County. *International Journal of Business Management, Entrepreneurship and Innovation, 4(2), 35-47.* https://doi.org/10.35942/jbmed.v4i2.261.

Oqubay, A. 2018. *The Structure and Performance of the Ethiopian Manufacturing Sector. Working Paper Series N° 299*. Abidjan, Côte d'Ivoire: African Development Bank.

Peng, J.; Qin, Q.; Tang, T.(2021). *The Influence of Marketing Innovations on Firm Performance under Different Market Environments: Evidence from China. Sustainability*, 13, 10049. https:// doi.org/10.3390/su131810049

Porter, M. E. (1985). *Competitive Advantage: Creating and Sustaining Superior Performance.* New York: Free Press.

Quaye, D.&Mensah, I.(2019). Marketing Innovation and Sustainable Competitive Advantage of Manufacturing SMEs in Ghana. Manag. Decis. 57, 1535–1553.

Sehl, K (2020). How the Airline Industry Survived SARS, 9/11, the Global Recession and More [online] (Accessed 10th April 2023). Available from: https://apex.aero/2020/06/10/aftershockscoronavirus-impact/

Seo, G. H. (2020). Competitive Advantages of International Airline Alliances: A Critical Review.

HOLISTICA–*Journal of Business and Public Administration, 11(1), 139- 145.*

Suroso, E., & Azis, Y. (2019). Defining Mainstreams Of Innovation: A.

Tang, T.; Zhang, S.; Peng, J.(2021). The Value of Marketing Innovation: Market-Driven versus Market-Driving. *J. Bus. Res., 126, 88–98*

UNDP. (2018). "Understanding African Experiences in Formulating and Implementing Plans for Emergence: A Case Study of Growing Manufacturing Industry in Ethiopia." Addis Ababa: UNDP.

Ungerman, O.; Dedkova, J.; Gurinova, K. (2018). The Impact of Marketing Innovation on the Competitiveness of Enterprises in the Context of Industry 4.0. *J. Compet. 10, 132–148.*

Valmohammadi, C.(*2018*). Customer relationship management: Innovation and performance. *International Journal of Innovation Science, 9(4), 374–395*.

Wakeford, J. J., M. Gebreeyesus, T. Ginbo, K. Yimer, O. Manzambi, C. Okereke, B. Mairi, and M. Yacob. (2017). "Innovation for Green Industrialization: An Empirical Assessment of Innovation in Ethiopia's Cement, Leather and Textile Sectors." *Journal of Cleaner Production 166 (1), 503–511. doi:10.1016/j.jclepro.2017.08.067.*

Yu X, Nguyen B, Chen Y. (2018). Internet of things capability and alliance: Entrepreneurial orientation, market orientation and product and process innovation. *Internet Research. 26(2), 402–434.*