Effect of Organizational Culture on Performance of Safety Management Systems: Civil Aviation Service Providers in Kenya

*Thendu Bedan Kimeria, Kariuki Paul, Muturi Willy and Wanjohi Peter
Jomo Kenyatta University of Agriculture and Technology,
P.O. Box 62 000 – 00200 Nairobi, Kenya

***Corresponding author's email address:** bthendu@gmail.com

Abstract

This paper sought to establish the effect of organizational culture on performance of safety management systems (SMS) among civil aviation providers in Kenya. Its main objective was to establish the effect of organizational culture on performance of safety management systems in the civil aviation industry in Kenya utilizing the organizational culture theory. The target population of this study were the civil aviation service providers that are listed in Kenya, and the sample size was 132. Primary data was collected using questionnaires whereas secondary data was collected from company websites, journals and periodicals. The paper utilized stratified sampling technique and more specifically proportionate stratified random sampling. The population was grouped into five strata representing each category of the services provider. Qualitative responses were analyzed using content analysis. Descriptive technique involved generation of frequencies, mean and percentages, while the inferential analysis involved establishing significant linear relationship between the dependent variable and independent variable utilizing Pearson's correlation analysis and regression analysis. The data was presented in form of tables. The findings show that organizational culture and performance of safety management systems were strongly and positively related as indicated by a correlation coefficient (R) value of 0.671. From the findings, the value of adjusted R^2 was 0.450 which implies that 45% of variations in performance of safety management systems can be attributed to changes in organizational culture. The remaining 55% variations in performance of safety management systems can be attributed to other aspects other than changes in organizational culture. The paper established that while organizational culture is expected to harness employee's loyalty and sense of belonging, some aviation service providers were administering punishments upon voluntary reporting of incidents and accidents. This was an indicator of lack of just, non-punitive, and supportive work culture which in essence inhibits success in performance of safety. More so, there existed a general tendency of lack of team spirit and cohesion. The study found that organization culture has significant effect on the performance of safety management systems among civil aviation service providers in Kenya. The paper recommends incorporation of policies aiming at implementing voluntarily and non-voluntarily reporting systems of incidents and accidents, without administering punishment to the employees who provide this information, thus inculcating a just culture in civil aviation service providers.

Keyword: Organizational Culture, Performance, Safety Management Systems, Kenya

INTRODUCTION

Organizational culture is about people and the unique quality and style of the organization according to Kilmann (2015). Organizational culture is an idea in the field of organizational

studies management which describes the psychology, attitudes, experiences, beliefs, personal and cultural values of an organization. One of the major reasons for the widespread popularity and interest in organizational culture stems from the argument that certain organizational cultures lead to increased organizational performance. Eisend et al. (2016) postulates in his study that culture in deed plays an influential role in boosting performance. It is for this very reason that this paper wishes to meet the objective of evaluating the effect of the organisational culture on the performance of safety management systems among the civil aviation service providers in Kenya.

Aircraft accidents, incidents and aviation audit queries have persisted globally, regionally and more so in Kenya in spite of the introduction of safety management systems in the aviation industry. The safety management systems were introduced as a strategy to counter aviation safety occurrences (ICAO, 2019). In spite of the huge decline in flight movements in the year 2020 and 2021 due to the COVID-19 pandemic, reports indicate a general global increase in accidents rates. According to the 2021 safety report by the International Airline Transport Association (IATA, 2022) there was an increase to seven of the total number of fatal accidents in 2021 from five recorded in 2020. The Aviation safety net (2021) has statistically depicted a worrying trend in Kenya with evidence of increases in air accidents and incidents. These trends are a safety concern to air travelling public as well as to Kenya's economy in her bid to strengthen the grasp of the regional aviation hub at Jomo Kenyatta Airport. Evidently, safety management systems performance (SMS) in aviation is wanting as accidents and incidents reoccur despite the fact that implementation of safety management systems strategies was envisaged to see a reduction of these challenges (ICAO 2019).

Makanga (2017) recalls the real value of strategy being proper implementation and to which strategic managers invest significant resources in strategy development. The study propounds that the ability to implement a strategy is more crucial than the quality of the strategy. Effective implementation of safety management systems strategies ensures hazard identification and resolution thus promoting a continuous safety monitoring culture (Hassan, et al., 2020). Stroeve et al. (2022) argued in his study on assessing and advancing safety management in aviation that every organization is unique in its organizational culture and therefore possess its own strong and weak elements of assuring the safety of its operations. The study recommends tailored solutions of each organization. Odhiambo and Kaibui (2016) posit that stakeholder's involvement affect implementation of air safety projects at Kenya Civil Aviation Authority (KCAA).

Due to contextual and geographical differences among organizations, issues gained from these past studies may not be assumed to explain the effect of organizational culture on performance of safety management systems among civil aviation service providers in Kenya. These studies leave a gap that this researcher sought to fill by focusing and examining how organizational culture affects the performance of safety management systems among civil aviation service providers in Kenya.
This paper tested for the research hypothesis that oorganizational culture has no significant effect on the performance of safety management systems among the civil aviation providers in Kenya.

THEORETICAL FRAMEWORK

Organizational Culture Theory

This study was guided by organizational culture theory as it sought to establish the effect of organizational culture on performance of safety management systems in aviation industry in Kenya.

Organizational culture theory refers a pattern of shared basic suppositions learned by a group as it resolves its problems of assimilating internal and external routines, that has successfully worked to be considered valid and therefore to be imparted to new members as appropriate way to feel, think and perceive in relation to their problems (Schein, 2019). Dekker (2018) describes organizational culture as a system of shared values, assumptions, belief and norms that join organization members. However, organizational culture is deemed to play a role on the performance of safety management systems among aviation service providers in Kenya and therefore the researcher linked this theory to establish the effect of organizational culture on performance of safety management systems in aviation industry in Kenya.

LITERATURE REVIEW

Organizational Culture

Dekker (2018) defined organizational culture as a system of shared values, assumptions, belief and norms that join organization members. Paschal and Nizam (2016) who conducted a study on effects of organizational culture on employees' performance in a case of Singapore telecommunication described organizational culture as collection of values, beliefs, customs and practices that are shared by employees and passed on from one generation of employees to the next. Organizational culture affects the way business is contacted at the premises of business, for instance the relationship between staff, clients and stakeholders. According to Schein (2019) corporate culture should embrace teamwork and a supportive culture. In Vietnam, Hang et al. (2021) studied on the relationship between organizational culture and firm performance and determined an existing significant relationship. This study aimed to examine the relationship between components of organizational culture and firm performance. Primary data were collected through questionnaires answered by 982 employees in Vietnamese enterprises. Multiple regression was used to test the proposed model. The results show that consistency and involvement are the highest influencing factors of firm performance, while adaptability is the lowest. Thus, managers and leaders are recommended to develop a strong culture in the organization to improve their firm performance.

Stafford and Miles (2013) observed that organizational culture has a high impact on how individuals set personal and professional objectives that empower them to carry out actions which prompt assignments being undertaken thus influencing the performance rates at the organization. Furthermore, the ways of life in an organization have an impact in the way individuals deliberately and subliminally think, settle on decisions and whereby they recognize, feel and act. Where the merged organization has a strong organizational culture and smooth cultural integration process, individuals are likely to set smart goals and accomplish their targets at a more fruitful rate but where merged organization has a weak organizational culture then smart objectives are not set, leading to goals not met, and as a result poor organization performance (Makhlouk & Shevchuk, 2018).

Fruitful performance of organization obliges leaders to vision of the new organization to the individuals in charge of doing it and they must listen to concerns, dispel rumours, set expectations and come clean, otherwise, management will not be seen as being serious about the culture integration and will lose the dedication of the workforce ((Luvison, 2014). Zheng et al. (2015) conducted a study that noted organizational culture is arguably one of the key organizational assets associated with organizational effectiveness, playing a crucial role in determining the effectiveness of organizations, and stimulating or engendering many other activities that bring about corporate success. Further, the study held that through familiar and trusted leadership, employees recognize the important endeavours and commitments from their leaders.

Stafford and Miles (2013) postulates that organizations should continually include employees and specifically address culture during planning by assigning dedicated resources to engage people and start to map cultural differences as they progress. Doing so ensures that employee enhances teamwork and leads to a supportive culture where staff members feel their contributions are valued. Shakil (2012) studied the impact of organizational culture on management practices. The extensive study established a positive relationship between the independent and dependent variables. Many authors link organizational culture to safety culture promoted by leaders in work environments. This paper sought to evaluate cultures as derived from the broad organizational culture and deduce any effects it would have on performance of safety management systems among the civil aviation service providers in Kenya.

Performance of Safety Management Systems

According to ICAO (2021), safety management systems is a systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures. A study of comparative analysis of safety management systems approaches in a number of states was conducted by Kešeľová, et al. (2021). The study, which involved 39 airline operators, noted that performance of safety management systems in their operations of air carrier was mandatory, and the general principles and guidelines of this systems are set out by ICAO. The study argued that safety management in today's world was already necessary with the lists of ICAO standards and essential translations being considered a minimum requirement.

Performance is a major construct in management because almost all researchers and scholars attempt to relate their constructs to business firm's performance (Sorooshian et al., 2018). Combs et al. (2017) views performance as an economic outcome resulting from the interplay among organizational attributes, actions and environment. Performance is the measure of actual output or results of an organization against its intended outputs, namely goals and objectives (Weir & Laing, 2014). A study by Kim et al. (2017) on trend and safety management concept in aviation identified lack of safety culture and supervision of aviation activities as greatly influencing safety management systems performance in aviation.

Chang et al. (2015) conducted a study on performance evaluation of airport safety management systems in Taiwan where they looked at performance in various fields. They define performance as communication, interpretation, adoption and enactment of strategic plans. They make a clear distinction between structural and interpersonal process views on performance where process perspective is concerned about understanding issues like strategic consensus, autonomous strategic behaviours, diffusion perspectives, leadership and implementation styles while structural are about formal organizational structure and control mechanisms. Chang et al. (2015) identified five levels of performance namely: goals, organizational structure, leadership, communication and incentives. Performance requires setting up of clear objectives; changes in the organization structure are a prerequisite during strategy implementation while leadership plays a key role in determining direction and such strategies as having strategy champions. Communication is important because the details of performance effort need communication as early and as clearly as possible, while incentives are important to inspire and motivate members to change in accordance with the new strategy.

In Kenya, Njagi (2018) performed a research study on the effect of strategic resources on performance of public health institutions in Embu County. While targeting a population of 550 employees and 10 outpatients and utilising a cross sectional study design, it established that physical resources positively influence the performance of public health institutions as they did on the five public hospitals in Embu County. The factors of measure considered in

this study were physical resource like availability, adequacy, quality and maintenance. Naeem (2018) alludes that safety education and positive safety practice are the two vital factors in implementation of safety practices and procedures.

Lares-Mankki (2014) conducted a study on strategy implementation bottlenecks and revealed that, failure in implementation of strategic plans was due to poor and inadequate information sharing with uncertain responsibility and accountability. Gathai (2012) studied on factors influencing implementation of performance contracting in state corporations in Kenya. The study sought to establish the effects of employee turnover, employee sensitization, performance measurement, organizational commitment and organizational culture on implementation of performance contracting at KCAA. The study did not venture into the performance of safety management systems which is a great influence on operations of the civil aviation service providers and to which this paper determines.

Conceptual Framework

The conceptual framework of the study is as depicted in Figure 1.

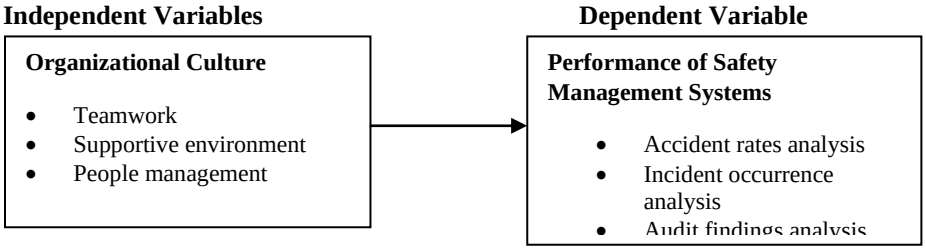

Figure 1: Conceptual Framework

METHODOLOGY

Using a positivistic approach, this study adopted a cross sectional research survey to determine the effect of organisational culture on the performance of safety management systems among the civil aviation service providers in Kenya. To obtain primary data, questionnaires were applied from 132 managers of the civil aviation service providers in Kenya, out of which 123 questionnaires were duly returned. The nine questionnaires that were not returned were from 3 organisations that claimed not to have a research policy and therefore could not provide requested information. Secondary data was collected and analysed too. The target population of this paper was the civil aviation service providers as listed in Kenya. The accessible population of this study were the managers responsible for the implementation of the safety management systems at these civil aviation service providers. To come up with an appropriate study sample, the study utilized stratified sampling technique and more specifically proportionate stratified random sampling. The population was grouped into five strata representing each category of the services provider. A census of all managers whose responsibility involve safety management in the five categories of service providers was carried out. Table 1 shows the sampling technique and sample size.

Table 1: Sampling Technique and Sample Size

SN	Organization	Number Operating in Kenya	Respondents (Managers)
1	ATS Providers	9	9
2	Approved Training Organizations	19	19
3	Certified Operators of Aerodrome	12	12
4	Approved Maintenance Organizations	50	50
5	International Aircraft Operators	42	42
	Total	132	132

Source: Author (2022)

Model Specification

A linear regression model was used in the analysis to determine the effect of the independent variables and the dependent variable of safety management systems in the aviation industry in Kenya.

$Y = \alpha + \beta_1 X_1 + \varepsilon$ ……

Where Y is Performance of safety management systems, α is the Y intercepts, β_1 is the coefficients of regression and ε is the error term of the model.

X_1 = Organizational Culture

RESULTS AND DISCUSSIONS

This section presents findings collected through methodology discussed in the previous section. The study targeted employees from Air Traffic Services, Approved Maintenance Organizations, Approved Training Organizations, International Aircraft Operators, and Operators of Certified Aerodromes in Kenya. A usable sample of 132 managers participated in the study. 123 questionnaires were filled and returned translating to a response rate of 93.2%, while 9 organisations never responded siting lack of research policy to guide them on the same.

Descriptive Analysis

In this section the study presents findings mainly on Likert scale questions for each variable. The respondents were asked to give the level to which they agreed or disagreed with statements on each variable. They used a 5-point Likert scale where 5 =Strongly Agree 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = Strongly Disagree. The results provided were analysed and the findings interpreted using means and standard deviation values. The respondents gave their level of agreement with various statements that relate with organizational culture. Table 2 presents the research findings.

Table 2: Organizational Culture

Statement	Mean	Std. Dev
Our organization regularly conducts team building activities	3.976	1.230
Our organization encourages cross functional interactions	3.919	1.390
Our managers develop and create a spirit of unity, trust and innovation in the organization	3.821	1.208
Managers encourage positive values in our organization	3.959	0.972
Our culture encourages employee's loyalty and sense of belonging	3.724	1.321
Our organization provides prior awareness on new strategies	3.886	1.024
Our organization encourages certain degree of flexibility of employees in executing change processes	3.878	1.172
Our organization has change management policies that are known to staff.	3.724	1.092

Source: Author (2022)

From the findings in Table 2, all the standard deviation values for each statement were below 2 an indication that respondent individual response was in agreement with mean. The findings specifically shows that the respondents agreed that their organization regularly conducts team building activities (M=3.976, SD=1.230); managers encourage positive values in our organization (M=3.959, SD=0.972); the organization encourages cross functional interactions (M=3.919, SD=1.390); their managers develop and create a spirit of unity, trust and innovation in the organization (M=3.821, SD=1.208), their organization provides prior awareness on new strategies (M=3.886, SD=1.321), their organization encourages certain degree of flexibility of employees in executing change processes (M=3.878, SD=1.172); their organization has change management policies that are known to staff (M=3.724, SD=1.092); and their culture encourages employee's loyalty and sense of belonging (M=3.724, SD=1.024). The study agrees with Zheng et al. (2015) that organizational culture is arguably one of the key organizational assets associated with organizational effectiveness, playing a crucial role in determining the effectiveness of organizations, and stimulating or engendering many other activities that bring about corporate success.

Performance of Safety Management Systems

The performance of safety management systems was gauged through questions mainly adhering to Likert scale. The respondents were asked to give the level to which they agreed or disagreed with statements using a 5-point Likert scale where 5 =Strongly Agree 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = Strongly Disagree. Table 3 presents the findings obtained.

Table 3: Performance of Safety Management Systems

Statement	1	2	3	4	5	Mean	Std. Dev
Organizational culture affects the performance of safety management systems in the organization	2	6	10	85	21	3.961	1.149
Capacity building affects the performance of safety management systems in the organization	4	6	4	87	22	3.955	1.199
Firm resources affects the performance of safety management systems in the organization	4	6	2	97	14	3.902	1.345
Strategic leadership affects the performance of safety management systems in the organization	6	2	12	89	14	3.836	1.207
Stakeholders' collaboration has a moderating effect on the relationship between firm level dimensions and performance of safety management systems in the organization	6	4	9	91	14	3.836	1.234

Source: Author (2022)

Results in Table 3 show that the standard deviation values for each of the statement are less than two; this suggests that respondent individual responses did not differ from the mean. The findings further show that the respondents agreed that organizational culture affects the performance of safety management systems in the organization (M=3.961, SD=1.149), capacity building affects the performance of safety management systems in the organization (M=3.955, SD=1.199), firm resources affects the performance of safety management systems in the organization (M=3.902, SD=1.345), strategic leadership affects the performance of safety management systems in the organization (M=3.836, SD=1.207) and stakeholders' collaboration has a moderating effect on the relationship between firm level dimensions and performance of safety management systems in the organization (M=3.836, SD=1.234). The study findings agree with Shakil (2012) who studied the impact of organizational culture on management practices and established a positive relationship. It also agrees with Hang et al. (2021) in that there exists a strong relationship between organizational culture and firm performance as evidenced in a study conducted in Vietnam.

Inferential Statistics

The effect of independent variable on dependent variable was determined by computing inferential statistics. The study computed correlation and regression analysis.

Correlation Analysis

The study computed correlation analysis to test the relationship between the dependent and the independent variables.

Table 4: Correlations

		Performance of SMS	**Organizational Culture**
Performance of SMS	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	123	
Organizational Culture	Pearson Correlation	.671**	1
	Sig. (2-tailed)	.002	
	N	123	123

Source: (2022)

From the findings, the relationship between the dependent variable and the independent variables were all significant (p-values<0.05). The findings also show that there was no significant relationship between the independent variables and therefore implying that there was no multicollinearity between the variables. The findings show that organizational culture and performance of safety management systems were strongly and positively related (r=0.671, p=0.002).

Regression Analysis

The hypothesis of the study was to determine the effect of organizational culture and the performance of safety management systems among civil aviation service providers in Kenya. Since this paper was an extract of a wider research study constituting several variables, the paper regressed organizational culture with performance of safety management systems. The findings were as presented in Table 5.

Table 5: Simple Regression for Organizational Culture

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.671[a]	.450	.446	5.02483

a. Predictors: (Constant), Organizational Culture

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	242.801	1	242.801	9.616	.002[b]
	Residual	3055.118	121	25.249		
	Total	3297.919	122			

a. Dependent Variable: Performance of SMS

b. Predictors: (Constant), Organizational Culture

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.244	0.277		4.491	0.000
	Organizational culture	0.329	0.106	0.671	3.104	0.002

a. Dependent Variable: Performance of SMS

Source: Author (2022)

From the findings presented in Table 5, the value of adjusted R^2 was 0.446 which implies that 44.6% of variations in performance of safety management systems can be attributed to changes in organizational culture. The remaining 55.4% variations in performance of safety management systems can be attributed to other aspects other than changes in organizational culture. The findings also show that organizational culture and performance of safety management systems are strongly and positively related as indicated by a correlation coefficient (R) value of 0.671. The study finding concurs with Stafford and Miles (2013) that organizational culture has a high impact on how individuals set personal and professional objectives that empower individuals to carry out objectives which prompt assignments/exercises being undertaken thus promoting performance in organizations.

From the Anova findings, the p-value obtained was 0.002 which is less than 0.05, an indication that the model was significant. The findings also show that the F-calculated value (9.616) is greater than the F-critical value ($F_{1,121}$=3.919). Since the f-calculated value is greater than the F-critical value it shows that, the model is reliable and can be used to predict performance of SMS in aviation industry in Kenya.

From the coefficients table, the following model was fitted;

$Y= 1.244 + 0.329 X_1$

From this equation, when organizational culture is held to a constant zero, performance of safety management systems will be at a constant value of 1.244. The findings also show that a unit increase in organizational culture will lead to a 0.329-unit increase in performance of safety management systems. The findings also show that the t-statistic (3.104) has a p-value (0.002) which is less than the selected level of significance (0.05). Therefore, we accept the null hypothesis (H_{01}) and conclude that organizational culture has significant effect on the performance of safety management systems among aviation service providers in Kenya. The findings concur with the findings of Hang et al. (2021) that organizational culture positively affects organizational performance.

Secondary data availed by International Air Transport Association (2022) indicated an increased number of accidents and incidents in the recent past in spite the fact that the global statistics of flight movements indicated a decrease more so as result of restrictions enforced by governments during the COVID-19 pandemic. The paper found that while a number of organisations regularly conduct team building activities and encouraged cross functional interactions, most organisations punish employees who volunteer safety related information. These actions have created fear and lack of team cohesion within organisations. Further, organisations lack adequate safety reporting mechanisms to enable employees report incidents and accidents unanimously. The paper identified a general reluctance to adopt a learning culture as well as diminished teamwork values as existing challenges towards achievement of better safety performances. This finding concurs with the study conducted by Schein (2019) alluding that corporate culture should embrace teamwork and a supportive culture.

CONCLUSION

The paper found that organizational culture has a positive effect on performance of safety management systems among civil aviation service providers in Kenya. Further, the effect was significant such that, an improvement in organizational culture will lead to a 0.329-unit increase in performance of safety management systems. The paper therefore concluded that organizational culture has significant effect on the performance of safety management systems in the aviation industry in Kenya. Apart from the effect, several factors were identified as key ijn enhancing performance among these providers. Key among them were just culture, learning culture, team values and cohesion as well as management commitment to positive change in these organisations. It was realized that employees resist introduction change, especially involving policies, due to the hasty deployments conducted by the management. Consistent with this finding, the null hypothesis; organizational culture has no significant effect on the performance of safety management systems in the aviation industry in Kenya, was rejected.

RECOMMENDATIONS

The paper recommends incorporation of policies aiming at implementing voluntarily and non-voluntarily reporting systems of incidents and accidents, without administering punishment to the employees who provide this information, thus inculcating a just culture in the organisation. In a pragmatic approach towards achieving this goal, organizations need to initiate open lines of feedback and equip employees with various tools for airing views and incidents anonymously. The paper also recommends leaders to understand, manage and deliberately regard organizational culture as an existing influencer of safety management performance in organizations in order to achieve sustainable improvement in the number of accidents, incidents and audit findings. The paper further urged leaders to influence adoption of a learning culture and enhancement of team work in their respective organisations.

Conflict of Interest

The authors declare no conflict of interest.

REFERENCES

Arendt, D., & Adamski, A. (2017). *Implementing safety management systems in aviation*. Ashgate Publishing.

Aviation safety net. (2021). *Aviation safety network*. https://aviation-safety.net/

Bhattacherjee, A. (2012). *Social science research: Principles, methods, and practices*. Free Press.

Bloomfield, J., & Fisher, M. J. (2019). Quantitative research design. *Journal of the Australasian Rehabilitation Nurses Association, 22(2),* 27—30.

Brondizo, E., Leemans, R., & Solecki, W. (2014). *Current opinion in environmental sustainability*. Elsevier Press.
Creswell, J. W. (2015). *Concise introduction to mixed methods research*. Cengage Learning.
Dekker, A. (2018). *Just culture: Balancing safety and accountability* (4th ed.). Ashgate Publishing.
Denison, D. R. (1990). *Corporate culture and organizational effectiveness.* Wiley.
Eisend, M., Evanschitzky, H., & Gilliland, D. I. (2016). The influence of organizational and national culture on new product performance. *Journal of Product Innovation Management, 33(3),* 60–76.
European Union Aviation Safety Agency. (2020). *Annual safety review.* https://cdn.aviation-safety.net/airlinesafety/industry/reports/EASA-Annual-safety-review-2020.pdf
Grant, C., & Osanloo, A. (2014). Understanding, selecting and integrating a theoretical framework in dissertation research: Creating a blue print for your house. *Administrative Issues Journal, 4*(2), 12–26.
Hassan, M., & Maitlo, G. (2020). Impact of crew training and safety management systems on operational management in aviation industry of Pakistan. *Artificial Intelligence, 9(2),* 19–27.
Imenda, S. (2014). Is there a conceptual difference between theoretical and conceptual frameworks? *Journal of Social Science, 38*(2), 85–95.
International Air Transport Association. (2022). *2021 Safety report*. https://www.iata.org/publishing
International Civil Aviation Organization. (Ed.). (2016). *Annex 11 to the Convention on International Civil Aviation on Air Traffic Services* (15th ed.).
International Civil Aviation Organization. (Ed.). (2019). *Annex 19 to the Convention on International Civil Aviation on Safety Management* (2nd ed.).
International Civil Aviation Organization. (Ed.). (2021). *Safety management manual* (4th ed.).
International Civil Aviation Organization. (2020). *Aviation safety report.* https://www.icao.int/safety/Documents/ICAO_SR_2020_final_web.pdf
Jaques, E. (1951). *The changing culture of a factory.* Tavistock Publications.
Johal, P., Edwards, C., & Rogan, E. (2015). *Safety management tools and methods.* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4725603
Kenya Civil Aviation Authority. (2021). Aviation service providers in Kenya. https://www.kcaa.or.ke
Kešeľová, M., Blišťanová, M., Hanák, P., & Brůnová, Ľ. (2021). Safety management systems in aviation: Comparative analysis of safety management systems approaches in v4 countries. *Management Systems in Production Engineering,29(11),* 31–54.
Kilmann, T. (2015). *Antecedents of firm performance in the emerging economies business group, strategy, industry structure, and state support*. Linkoping University.
Kothari, C. R., & Garg, A. (2014). Research methodology; Methods and techniques (3rd ed.). New Age International.
Lares-Mankki, L. (2014). *Strategy implementation bottlenecks: Identification, analysis and removal*. Lappeenranta University of Technology.
Lorincová, S., Miklošík, A., & Hitka, M. (2022). The role of corporate culture in economic development of small and medium-sized enterprises. *Technological and Economic Development of Economy, 28(1),* 198–221.
Makanga, R. O. (2017). Influence of strategic management practices on performance of Kenya Power and Lighting Company Ltd, Nairobi County, Kenya. *Strategic Journal of Business & Change Management, 4(4),* 11–21.
Mugenda, O. M., & Mugenda, A. G. (2012). *Research methods: Quantitative and qualitative approaches*. Acts Press.
Odhiambo, C., & Kaibui, M. (2016). The role of stakeholders in implementation of air safety projects in Kenya: A case study of Jomo Kenyatta International Airport, Nairobi. *International Journal of Innovative Research and Advanced Studies, 37(17),* 10–22.
Schein, H. E. (2019). *Organizational culture and leadership*. Jossey-Bass Publishers.
Shakil, M. A. (2012). Impact of organizational culture on performance management practices in Pakistan. *Business Intelligence Journal, 16(3),* 9–18.
Stafford, D., & Miles, L. (2013). *Integrating cultures after a merger*. Bain & Company.
Stroeve, S., Smeltink, J., & Kirwan, B. (2022). Assessing and advancing safety management in aviation. *Safety, 8(2),* 19–25.
Stolzer, A. J., Halford, C. D., & Goglia, J. J. (2015). *Safety management systems in aviation*. Ashgate Publishing.
Wilson, J. (2014). *Essentials of business research: A guide to doing your research project*. Sage Publication.
Zheng, W., Yang, B., & McLean, G.N. (2015). Linking organizational culture, structure, strategy and organizational effectiveness: Mediating role of knowledge management. *Journal of Business Research, 63(12),* 13–23.