

**STRATEGIC FIRM LEVEL DIMENSIONS AND
PERFORMANCE OF SAFETY MANAGEMENT SYSTEM
IN THE AVIATION INDUSTRY IN KENYA**

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**Strategic Firm Level Dimensions and Performance of Safety
Management System in the Aviation Industry in Kenya**

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the Degree of Doctor of Philosophy in Strategic Management of the
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DECLARATION

This thesis is my original work and has not been presented for a degree in any other University.

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DEDICATION

To my wife Caroline, and our children Peter, Grace, Esther, Peter Junior and Hadassah Muringi who gave me relentless support and encouragement during my post-graduate school life. I am truly thankful for having you in my life. To my parents, Mr. Peter Thendu & Mrs. Esther Thendu who have always loved me unconditionally and whose noble upbringing has taught me to work hard for the things that I aspire to achieve. My mum in love, Grace Kahiga, thanks for your support.

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ABBREVIATIONS AND ACRONYMS

AATO	Association of African Aviation Training Organizations
AMO	Approved Maintenance Organization
ANS	Air Navigation Services
ANSP	Air Navigation Services Provider
ATO	Approved Training Organisation
ATS	Air Traffic Services
EASA	European Aviation Safety Agency
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
KAA	Kenya Airports Authority
KCAA	Kenya Civil Aviation Authority
KCARs	Kenya Civil Aviation Regulations
SMM	Safety Management Manual
SMS	Safety Management System
UET	Upper Echelon Theory

DEFINITION OF TERMS

- Stakeholder Collaboration** Is a process through which groups with similar or different perspectives can exchange viewpoints and seek for solutions that go beyond their own vision of what is possible (Bischoff, Volkmann & Audretsch, 2018).
- Capacity Building** Refers to development of knowledge, attitude, and skills of the workforce for enhancing the abilities to achieve the short-term and long-term goals on organizational as well as personal levels (Millar & Doherty, 2016).
- Strategic Leadership** The ability to shape an organization's decisions and deliver high value over time, not only personally but also by inspiring and managing others in the organization (Otieno & Lewa, 2020).
- Firm Resources** Denotes assets that are tied semi-permanently to the firm including; financial, physical, human, commercial, technological, and organizational assets used by firms to develop, manufacture, and deliver products and services to its customers (Barney, 2020).
- Organizational Culture** The collection of values, expectations, and practices that guide and inform the actions of all team members. The way things are done in an organization, intangible yet ever-present theme that provide meaning, direction, and the basis for action (Njugi & Agusioma, 2014).
- Organizational Performance** This is the organization's ability to achieve its goals and objectives effectively and efficiently with available resources and encompass a wider dimension

of both economic and non-economic parameters like operational efficiency and customer satisfaction (Khalid *et al.*, 2019).

Strategic Firm Level Dimensions These are tactical factors bearing internal aspects in the organization and are critical in determining organizational performance (Dekker, 2018).

Safety Management System A systematic approach to managing safety, including necessary organizational structures, accountabilities, policies and procedures (ICAO, 2019).

ABSTRACT

The general objective of this study was to examine the influence of strategic firm level dimensions on the performance of Safety Management System in the Aviation Industry in Kenya. The Aviation Industry is a targeted enabler of various economic blueprints including the Kenya Vision 2030 and AU Agenda 2063. However, the industry continues to experience frequent incidents and accidents in spite of the fact that the International Civil Aviation Organisation (ICAO) introduced various safety management system strategies. Aviation safety reports depict a trend that is worrying globally and locally. Kenya has witnessed aviation accidents or occurrences yearly, since 2009. The accidents and incidents not only paint a gloomy picture for investors and implementers of the numerous roadmaps but also a concern to the flying public and policy drivers of Kenya's economy in her bid to strengthen a grasp on the regional aviation hub. The study examined the influence of stakeholder collaboration, capacity building, strategic leadership and firm resources on the performance of safety management system among firms providing services in the Aviation Industry in Kenya. The researcher assessed the moderating influence of organizational culture on the relationship between strategic firm level dimensions and performance of safety management system. This study adopted a cross-sectional survey research design and applied the proportionate stratified random sampling to capture key population characteristics in the sample. The study collected primary data from the aviation service providers using a structured questionnaire and obtained secondary data from Flight Safety Foundation website. The study involved a census of the 132 managers implementing safety management system in all the aviation service providers in Kenya as prescribed by the International Civil Aviation Organisation. The data collected was analysed using both descriptive and inferential statistical methods. Qualitative responses were analyzed using content analysis. The descriptive technique involved generation of frequencies, mean and percentages while inferential analysis technique involved establishing significant linear relationship between the dependent variable and the independent variables. Pearson's correlation analysis and regression analysis were performed under the inferential analysis. The ANOVA F-statistic was used to test the research hypothesis for the regression coefficients for each variable. The data was presented in form of tables, graphs, and charts. The study concluded that strategic firm level dimensions had a statistically significant and positive influence on performance of safety management system in the Aviation Industry in Kenya. The study also concluded that organizational culture had a significant moderating influence on the relationship between strategic firm level dimensions and performance of safety management system in the Aviation Industry in Kenya. The study recommends congruous consultations between aviation players, harmonization of aviation training programs and that top management should ensure firm resources are provided sufficiently to implement safety management system. Ministry of Transport should ensure that regulatory requirements are met and that aviation leaders should adopt strategic leadership practices to achieve the desired performance of safety management system.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Strategic firm level dimensions are the exact functions of a particular business and are very important for any organizational activity or productivity of the company (Aldag & Kuzuhara, 2015). The performance of an organization is enhanced by the combination of various strategic firm level dimensions which include structures, systems and processes, style, staff, resources, shared values, strategy and strategic performance (Njagi, Muathe & Muchemi, 2018). These variables are seldom used in determining the performance of safety management system and specifically in the Aviation Industry in Kenya.

There are two diverse opinions on what really influences performance and the first viewpoint is that it is the strategic firm level dimension whereas the second view is that industry characteristics are the ones responsible for influencing organization performance (Mura, 2020). Njeru (2017) concluded that limited studies have been carried out regarding performance in the aviation industry especially in Kenya and recommended further research exploration on more dimensions of safety management system. Performance in a firm reflects the implementation of strategies based on strategic firm level dimensions such as organization culture, capacity building, firm resource and strategic leadership (Wang & Dass, 2017).

This study examined strategic firm level dimensions and how they influence the performance of safety management system in the Aviation Industry in Kenya. Conceptual gaps have been perceived in numerous constructs including firm resources, strategic leadership, stakeholders' collaboration and capacity building. Furthermore, there are conflicting findings from previous studies on the outcome of these concepts. It is for this reason that this researcher deemed it fit to explore further on these concepts and how they influence performance of safety management system in the Aviation Industry in Kenya.

Organizational culture is an idea in the field of organizational studies and management which describes the psychology, attitudes, experiences, beliefs and values which include personal and cultural values of an organization (Schein, 2019). Nair and Sommerville (2017) argued that organizational culture is about people and the unique quality and style of the organization leading to superior organizational performance. The study opined the existence of a relationship between the organizational culture and performance in organizations.

Firm resources are the productive assets of firms, the means through which activities are accomplished (Barney, 2018). Enhanced performance of individual resource elements such as personnel, machinery and other fixed assets integrates into performance (Georgakakis, Greve & Ruigrok, 2017). It raises an important requirement, therefore, to determine how these firm resources would influence the performance of safety management system in the Aviation Industry. Financial resources, technological resources and human capital resources constructs were used in this study to ascertain the influence of firm resources on the performance of safety management system in the Aviation Industry in Kenya using ordinal scale.

For the Aviation Industry to thrive in a competitive environment, it requires unique activities that strengthen its ability to perform and marshal its resources towards the attainment and sustenance of organizational goals; ensuring a firm maximizes its potential activities and production output at all times, under all conditions (Mura, 2020).As Brown, Lafond and Macintyre (2020) affirmed, capacity building is a multidimensional and dynamic process that improves the ability of organization to meet its objectives and perform better in a competitive environment.

While capacity building improves effectiveness at the organizational level, studies by Ahmad, Farrukh and Nazir (2015) concluded that it had a positive impact on the employees' performance along with external factors significantly examined. Whether this impact would be replicated on the Aviation Industry is a matter of interest for this study. Thus an analysis of staff empowerment, technical skills and advocacy skills concepts as measured through ordinal scale determined their influence on the performance of the safety management system in the Aviation Industry in Kenya.

Benn, Edwards and Williams (2019) asserted that in the contemporary highly competitive business environment where the value and importance of intellectual assets is important, the top management should be instructed to undertake excellent leadership practices. Strategic leadership, is widely described as one of the essential factors influencing the efficiency of an organization by making strategic decisions, attaining strategic controls, determining organizational structure and managing organizational processes. Senaji and Galperin (2020) noted that strategic leadership in an organization is evident in direct and indirect actions but as noted, lack of strategic leadership by top managers in organizations is a serious obstacle to corporate success.

Jaleha and Machuki (2018) posited that turbulent environmental factors trigger articulation of clear visions by strategic leaders in implementation of necessary changes within an organization. Researchers, practitioners and scholars continue to be preoccupied with the quest for leadership effectiveness. Doan (2020) identified strategic decision making on finances allocation as influencing the performance of organisations. This researcher sought to ascertain this revelation through the constructs of decision making, strategic direction and strategic control to its applicability in performance of safety management system in the Aviation Industry.

Stakeholder collaboration is an integral part in the process of decision-making and aims at broadening the support for any project activities and serves to prevent unforeseen conflicts and solicits for approval as much as possible (Dahri et al., 2019.) Joint engagement, stakeholders' consultation and problem solving were used as constructs to determine the influence of stakeholders' collaboration in the performance of safety management system in the Aviation Industry in Kenya.

Kenya being a member state of the ICAO community is mandated to comply and implement the safety management system (International Civil Aviation Organisation [ICAO], 2019). Strategies employed by organizations implementing and operating a new system usually determine its performance (Njagi *et al.*, 2018). This study aimed at examining how strategic firm level dimensions namely stakeholder collaboration,

capacity building, firm resources and strategic leadership influence the performance of safety management system.

1.1.1 Global Perspective of Strategic Firm Level Dimensions

A study conducted by Høglund, Caicedo, Martensson and Svardsten (2018) in Sweden presented a qualitative case study on how strategic management has been applied in the Swedish Transport Administration (STA), including the tools used in strategy making. The study found that firm related factors did not significantly influence performance, instead factors related to industry structure and business groups membership were the strongest determinants of firm performance. Hintošová, Hajduova, Szajt and Bobenič (2020) alluded that firm resources were important in determining industry performance.

In Vietnam, Hang, Hiep, Nguyen and Hùng (2021) analysed the relationship between organizational culture and firm performance and concluded that there existed a significant relationship between the two variables. However, it would be interesting to analyse how the same variables would relate in the content of safety management system in the aviation industry in Kenya. Similarly, in Sri Lanka, Senarathna, Warren, Yeoh and Salzman (2014) studied the influence of organizational culture on e-commerce adoption using postal survey questionnaire and analysing through quantitative analysis methods. The study affirmed the existence of a positive correlation between organizational culture and e-commerce adoption.

In Romania, Lazar (2016) carried out a study on the determinants of firm performance in listed companies within the framework of resource-based view of the firm. The study concluded that sales growth and value addition had a positive effect on firm performances. The study found that other key factors that have the most impact on the operating performance of listed companies were intangible resources, culture, leadership, cash in hand, firm-specific risk, growth and tangibility. Results have supported these findings to some extent, with resources and culture being the most important factors determining firm performance followed by leadership.

1.1.2 Regional Perspective of Strategic Firm Level Dimensions

In South Africa, Jaleha *et al.*, (2018) researched on the impact of strategic firm level factors especially strategic leadership on the operational strategy and performance of business organizations in South Africa. The study advanced that strategic leadership is directly and indirectly positively associated with operational strategy and organizational performance. It is positively associated with strategy orientation as well as operational excellence of business organizations in South Africa. The findings further showed that focusing on customers' needs, keeping the employees positive and empowered continually improved performance in the workplace. Further, organizational strategy must be aligned to the dynamics of the environment and must have the ability to fit in order to compete, survive and perform in a competitive environment.

Nwankwo (2017) in a study about the effect of capacity building on organizational performance of multipurpose cooperative societies in Osun state of Nigeria, asserted that capacity building has a strong effect on the performance of cooperative societies. The study recommended that in order to strengthen capacity building in cooperative societies, there was need for re-orientation and sensitization of members and employees of the cooperative societies in order to enhance their knowledge on the importance and benefits of capacity building.

Nwachukwu and Chladkova (2019) conducted a research on firm resources, strategic analysis capability and strategic performance of telecommunication firms in Nigeria. The study established that human resources, financial resources, strategic analysis capability have a positive and significant relationship with performance of telecommunication firms in Nigeria. Additionally, organization structure moderated the relationship between human resources, financial resources, strategic analysis capability and strategic performance. The study found that by recognizing the impact of organizational structure on human resources, financial resources and strategic analysis capability, managers can significantly enhance strategic performance.

1.1.3 Local Perspective of Strategic Firm Level Dimensions

Chepkirui (2018) identified strategic leadership as one of the key drivers of performance in public organizations in Kenya. The study concentrated on the role of strategic leadership in strategy implementation at the Agricultural Development Corporation (ADC) in Kenya, and found that strategic leadership played a very critical role in effective implementation of strategy at the corporation. Chebiego and Kariuki (2018) studied the strategic firm level factors and performance of manufacturing firms in Kenya, a case of Unilever Kenya Limited. The study postulated that management traits of top leaders boosted the effectiveness of organization and competencies contribute to enhanced employee performance and organizational success which led this research to investigate on the influence of strategic leadership on the performance of safety management system in the aviation industry.

Too and Simiyu (2019) conducted a study on firm characteristics and financial performance of general insurance firms in Kenya and concluded that organizational resources influence organizational performance. This supports the resource-based view of strategy but the dynamic capability theory cannot be overlooked because it emphasizes on the importance of effective use of organizational resources. The study recommended that the management of large manufacturing firms should carefully make an objective assessment about the appropriateness of the organizational culture and effective utilization of resources.

Kabetu and Iravo (2018) carried out a study on the influence of strategic leadership on performance of international humanitarian organizations in Kenya, where the study recommended training and capacity building of employees through on the job training. The results showed that strategic leadership establishes coherence in the operations of the institution. Kariuki and Nguyo (2020) reviewed the moderating role of industry environment on firm level factors and performance of large manufacturing firms in Kenya. The findings showed that industry environment had statistically significant moderating effect on combined effect of organization structure, culture and resources on performance. The findings by Njeru (2017)

indicated the need for further research on dimensions of safety management systems in the Aviation Industry.

1.1.4 Service Providers in Kenya's Aviation Industry

International Civil Aviation Organization (ICAO) is the global governing body on civil aviation matters and promulgates organizations that provide certified aviation services. The body develops strategies, plans, standards and procedures that direct the management of safety systems in the civil aviation. Consequently, an annex on safety management services to the Convention on International Civil Aviation was adopted by the ICAO Council in 2013 and became effective, and applicable the same year. Annex 19 of the ICAO convention has strategies for managing aviation safety and covers all service providers in the Aviation Industry including Air Traffic Services, Approved Training Organizations, Aircraft Maintenance Organizations, International and Commercial Operators of Aircraft or Helicopters, and Certified Aerodrome Operators (ICAO, 2021).

The safety management regulations contained in the Kenya Civil Aviation (Safety Management) Regulations of 2018 stipulate that a service provider must develop a plan to facilitate the implementation of safety management system within the organization. The provisions implemented have safety performance indicators that are acceptable to the appropriate authority managing civil aviation (ICAO, 2020). The regulations also mandate the authority to develop and issue an enforcement policy that guides the service organizations in resolution of safety events and this enables the service organizations to own up the safety management system process.

In 2019, Silverstone Airline operating in Kenya and based at Wilson Airport, had its Dash 8 fleet suspended from flying in order to facilitate inspection of its operations (Nyagudi, 2021). This action promoted the focus on the performance of aviation safety and compliance with the Kenya Civil Aviation (Safety Management) Regulations on safety management practices and strategies. Kenya has an Air Traffic Services (ATS) department within Kenya Civil Aviation Authority, a state agency in the Ministry of Transport, tasked with the responsibility of management of air traffic

and other connected services within its airspace (Kenya Civil Aviation Authority [KCAA], 2020).

The main objective of the air traffic services is to prevent collision between aircrafts as well as between aircrafts and obstructions. In Kenya, Air Traffic Services are provided at nine airports including Jomo Kenyatta International Airport, Moi International Airport, Diani, Kisumu International Airport, Eldoret International Airport, Wilson, Wajir, Lokichoggio and Malindi Airport (KCAA, 2020). As part of its mandate, Kenya Civil Aviation Authority certifies aircraft operators like Air Kenya; aviation training organizations such as East African School of Aviation; aviation maintenance organizations like Phoenix Aviation and airport operators like Kenya Airports Authority (KAA).

Among certified operators of aircrafts in Kenya is the national carrier- Kenya Airways, incorporated in 1977 and has its head office in Nairobi. It is currently operating as public-private partnership venture whereby individual Kenyan shareholders hold 30.94%, the Government of Kenya holds 23%, Air France – KLM 26%; Kenyan institutional investors hold 14.2%, foreign institutional investors 4.47% and individual foreign investors hold 1.39% (Iteba & Wekesa, 2018). These organizations within the Aviation Industry are formally known as aviation service providers and form the basis of this research and are as attached as Appendices V, VI, VII, VIII and IX.

Performance of Safety Management System

A safety management system grants a systematic way to identify hazards and mitigate risks while maintaining assurance that these risk controls are effective thus delivering productivity (Arendt & Adamski, 2017). Production and protection are regarded as the two goals of the existence of the aviation service providers (ICAO, 2019). Protection is entwined to the performance of the aviation service providers. Safety management system is normally woven into the fabric of an organization as it determines performance and becomes a constituent of the corporate culture (Njeru, 2017). Through effective application and implementation of the safety management system, an aviation service provider is contemplated to mitigate the occurrence of

aviation mishaps. Much research has been conducted in the field of performance but Njeru (2017) pointed out the need for further specific study on the strategic firm level dimensions on the performance of safety management system in the aviation industry.

1.2 Statement of the Problem

The aviation industry is a great enabler of numerous international and national economic masterplans, including the UN Sustainable Development Goals, AU Agenda 2063 and Kenya Vision 2030. To realise these blueprints, aviation industry must flourish and achieve its production and safety objectives (IATA, 2022). In the contrary, statistics from Flight Safety Foundation (2022) indicate that aircraft accidents and incidents have persisted globally, regionally and locally.

According to the IATA safety report (2022) the total number of fatal accidents increased from five in 2020 to seven in 2021 despite the significant reduction in the number of global flight movements due to COVID–19 pandemic which hit the world in early 2020 and impacted the Aviation Industry negatively as states resorted for stern control measures of flight restrictions. Globally, the fatality risk increased from 0.13% in 2020 to 0.23% in 2021 as demonstrated by the Flight Safety Foundation report (2022) which also documented 10-year accident statistics showing a cumulative increase of 16 per cent in the total number of accidents in 2019.

The Aviation safety report depict the trend in Kenya as not any better as it has witnessed an aviation accident or occurrence every year since 2009. This is in spite of the introduction of safety management system in the Aviation Industry as a strategy to overcome these unfortunate occurrences (ICAO 2019). Such statistics not only paint a gloomy picture for investors and implementers of the numerous blueprints but also a concern to the flying public, and policy drivers of Kenya's economy in her bid to strengthen a grasp on the regional aviation hub (Omondi & Kimutai, 2018).

Aviation leaders need to understand that the real value of a strategy is in its implementation (Shimengah, Gathenya & Otieno, 2019). This need to prompt

aviation organizations to adopt and implement strategic firm level dimensions to ensure survival (Holbeche, 2015). Hassan and Maitlo (2020) conducted a study analyzing the impact of crew training and safety management system on operational management in Aviation Industry in Pakistan and established that strategic leaders should take remedial measures to work out on factors that may augment aviation safety management.

The study fronted a research on firm level dimensions and their influences on the performance of the Aviation Industry. Stolzer and Goglia (2015) postulated effective implementation of safety management system to ensure hazard identification and resolution thus promoting continuous safety monitoring.

Fardnia, Kaspereit, Walker and Xu (2020) conducted a study that focused on the influence of financial performance on safety in the Aviation Industry. While the study underscored the relevance of financial ability in regard to performance, it called on further study on other internal characteristics. Naeem (2018) compared the aviation safety management system and its perceptions on safety culture in Pakistani. The study utilized a survey methodology urged for further research work to explore and excavate deeper into the aspects and issues raised in this research. In Kenya, Chebichii (2021) carried out a study on stakeholder engagement and performance of aerospace safety automation projects and found such engagement at initiation stage positively influenced the performance of safety automation projects.

Byrnes *et al.*, (2022), carried out a longitudinal study of the effects of safety crises on safety culture. The study suggested that various safety culture and safety climate variables were impacted during the COVID-19 pandemic. According to the study, aviation managers were able to mitigate and adjust safety policies and procedures to improve the safety culture and climate and ensure continuous accident-free performance. Most of these highlighted studies undertook quantitative research approach suggesting an apparent gap in an approach with a combined qualitative and quantitative research methodologies as applied by Foster and Adjekum (2022).

Due to contextual and managerial differences among organizations, issues identified from these previous studies may not be explicitly assumed to explain the influence of

strategic firm level dimensions on performance of safety management system in the Aviation Industry in Kenya. The studies do not also sufficiently address the subject of safety management system performance to minimize safety concerns in the industry. These considerable gaps informed this study about strategic firm level dimensions and performance of safety management system in the Aviation Industry in Kenya.

1.3 Objectives of the Study

This study was guided by general and specific objectives as outlined;

1.3.1 General Objective

The general objective of the study was to examine the influence of strategic firm level dimensions on performance of safety management system in the Aviation Industry in Kenya.

1.3.2 Specific Objectives

The specific objectives that guided the research were;

To establish the influence of stakeholder collaboration on performance of safety management system in the Aviation Industry in Kenya.

To examine the influence of capacity building on performance of safety management system in the Aviation Industry in Kenya.

To assess the influence of strategic leadership on performance of safety management system in the Aviation Industry in Kenya.

To determine the influence of firm resources on performance of safety management system in the Aviation Industry in Kenya.

To establish the moderating influence of organizational culture on the relationship between strategic firm level dimensions and performance of safety management system in the Aviation Industry in Kenya.

1.4 Research Hypotheses

This study aimed to test the following null hypotheses:

H₀₁: Stakeholder collaboration has no significant influence on performance of safety management system in the Aviation Industry in Kenya.

H₀₂: Capacity building has no significant influence on performance of safety management system in the Aviation Industry in Kenya.

H₀₃: Strategic leadership has no significant influence on performance of safety management system in the Aviation Industry in Kenya.

H₀₄: Firm resources have no significant influence on performance of safety management system in the Aviation Industry in Kenya.

H₀₅: Organizational culture has no significant moderating influence on the relationship between strategic firm level dimensions and performance of safety management system in the Aviation Industry in Kenya.

1.5 Significance of the Study

The findings of this study would provide crucial information to the aviation stakeholders in designing effective and efficient safety management system strategies to improve Kenya's aviation safety record. Specifically, the findings of this study are bound to benefit the following stakeholders;

Academicians and Researchers

This study makes significant contribution to the growing body of research on performance of safety management system especially in the Aviation Industry. Academic researchers can ably rely on the findings of this study by replicating the fundamentals in similar studies on examining performance of safety management system in other sectors such as road transport, water transport and health, among others. The findings may also be used as a source of reference by other researchers to inform their research areas given the gaps identified under this study.

Aviation Sector Regulators

Regulators in the aviation sector may use the findings and recommendations of this study to improve how they engage and collaborate with other service providers in enabling performance of safety management system. The engagement and collaboration approaches may be in form of policies informed by the recommendations of this research study. Kenya Civil Aviation Authority may benefit from the outcome of this study by choosing apt recommendations regarding contemporary oversight approaches.

Managers of Aviation Service Providers

Top management of various aviation service providers including Air Traffic Services, Approved Training Organizations, Approved Maintenance Organizations, Operators of certified Aerodromes and Operators of Aircraft would find this study very useful since it gives insights to management teams of the various organizations on essential areas to focus their energy in order to realize enhanced performance of safety management system.

1.6 Scope of the Study

The study assessed the influence of strategic firm level dimensions on performance of safety management system in the Aviation Industry in Kenya. Strategic firm level dimensions including stakeholder collaboration, capacity building, strategic leadership and firm resources were considered. Performance of the Aviation Industry in Kenya matters significantly in terms of regional development and creation of job opportunities. The Aviation Industry was thus chosen because of the impact it holds on several sectors and masterplans locally, regionally and internationally. The aviation industry is a major catalyst in the realisation of the Africa Union Agenda 2063 through the flagship project of implementation of the Single African Air Transport Market (SAATM). Similarly, aviation is an enabler of trade and commerce as stipulated on the economic pillar of the Kenya Vision 2030.

The steady increment of aircraft accidents and incidents in Kenya in spite of the introduction of safety management system, as a strategy to overcome these occurrences, led this researcher to conduct a study on the influence of strategic firm level factors on the performance of safety management system in the Aviation Industry in Kenya. The researcher analysed safety data dated between 2009 and 2019 as this operations during this period were not influenced by the COVID-19 disruption. However, the researcher had a sneak preview of the 2020 and 2021 safety analysis to justify the rising trend of the problem amid the COVID-19 disruption. The unit of analysis for this study was the aviation service providers in Kenya as prescribed by ICAO (2019) and the unit of observation were the managers responsible for implementation of safety management system at these organisations.

The service providers are geographically spread across Kenya as their bases of operations are mainly local airports hence the study covered the entire geographical horizons of the country. The study utilized primary data collected using questionnaires, secondary data and interviews conducted between May and July 2021.

1.7 Limitations of the Study

There were a number of challenges faced by the researcher despite the fact that they were overcome and the study was successfully complete on time. Firstly, some service providers were either reluctant or unwilling to provide data raising the issue of sharing out sensitive organizational information. The researcher assured them that the study was purely for academic purposes and that the information given would be kept confidential. The researcher provided the consent letter from the university as proof that the study served academic intent only.

COVID-19 protocols delayed data collection since some targeted managers had attained the age limit set by the government to remain out of office or work in alternate shifts. The researcher mitigated this challenge by rescheduling meetings and in some cases resulted to online communication channels. Another limitation was extracting information on the performance of these service providers since some organization's had confidentiality policy which limited respondents' response as

regards to safety data. Since this challenge was realized during the pilot testing, the researcher altered the questionnaire to test the performance variable using perceptual measure and therefore minimized the cases of non-response.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews related literature on strategic firm level dimensions and performance of safety management system in the Aviation Industry. It starts by examining five popular strategic management theories and discussing how these theories can be applied to the study variables. The chapter further reviews the conceptual framework, discussing the independent variables namely; stakeholder collaboration, capacity building, firm resources and strategic leadership; the moderating variable being organizational culture and the dependent variable being performance of safety management system in the Aviation Industry. The chapter gives details on empirical review and critique of the existing literature review, and finally gives details on identified gaps.

2.2 Theoretical Framework

A theory is a set of correlated definitions, propositions and ideas that present a systematic view of phenomena by indicating the relationship of variables with the intention of explaining or predicting the phenomena (Greenfield & Greener, 2016). The theories reviewed in this study include Stakeholder Theory, Capacity Building Theory of Change, Upper Echelon Theory, Resource-Based View, Organizational Culture Theory and Domino Theory.

2.2.1 Stakeholder Theory

Stakeholder theory was introduced by Freeman (1984) to promote a practical, efficient, effective and ethical way to manage organizations in extremely intricate and turbulent environments. It is a view of capitalism that emphasizes the interconnected relationships between a business and its customers, suppliers, employees, investors, communities and others who have a stake in the organization. The theory states that every legitimate person or group participating in the activities

of an organization do so to obtain benefits, and that the priority of the interests of all legitimate stakeholders is not self-evident (Scott & Davis, 2015).

The theory asserts that organizations should consider the concerns of individuals and groups that can affect or are affected by their activities while making decisions and achieving organizational goals (Ombati, 2018). Organizations are expected to do so because they are responsible and accountable to a broad range of stakeholders for their activities and not just shareholders (Eskerod & Ang, 2017). Stakeholder theory recognizes the existence of a dynamic and complex relationship between organizations and their stakeholders and emphasizes the management of these relationships.

The stakeholder theory postulates that an organization is a social construct that is made up of interaction of various players and it is seen as the centre of a network of stakeholders and as the centre of a web of interactions amongst managers, employees, customers, suppliers, unions and the regulators among others (Eskerod *et al.*, 2017). The proponents of the theory suggest that an organization's value is created when it meets the needs of its key stakeholders. The basic premise of stakeholder theory is that the organization enters into relationships with many groups that influence or are influenced by the company (Lehtinen & Aaltonen, 2020).

Ombati (2018) posits that involvement of stakeholders in the Aviation Industry safety management system operations would build a great rapport and result to increased performance of safety management system. This would involve collaboration in provision of resources, agreeable targets on installation of prerequisite equipment, provision and exchange of expertise and amicable acknowledgement of appropriate implementation deadlines (Ombati, 2018).

Andriof and Waddock (2017) pointed out limitations in this theory as it requires to analyse the actual behaviour of stakeholders, their cooperative potential and competitive threats in order to find an optimal strategy for each category of stakeholders. Odhiambo and Kaibui (2016) in a study on the role of stakeholders in implementation of air safety projects in Kenya concluded that implementation of air safety projects was adversely affected by levels of stakeholder involvement. The

study recommended the development of stakeholder policies and encouragement of air navigation services staff in the conceptualization and implementation of air safety projects.

Stakeholder theory relates to this study in that the aviation sector in Kenya has many players ranging from passengers, pilots, environmentalists, security agencies, local community and government bodies (Odhiambo *et al.*, 2016). Stakeholders have varying interests; while others drive their mandates of overseeing safety in the aviation sector, others focus on national security and yet others work to remain afloat in business. The stakeholder theory provides approaches in managing all these diverging interests all the while remaining focused on achieving organizational objectives. This theory sought to explain the variable stakeholder collaboration and its influence on performance of safety management system in the Aviation Industry in Kenya.

2.2.2 Capacity Building Theory of Change

The theory was postulated by Bronfenbrenner (1974) indicating that capacity building is a key pillar in learning and that different approaches adopted by firms to build capacity of staff have an effect on their performance and that of other stakeholders. Capacity building theory aims at enhancing competency of individuals through the development of skills and knowledge. Mejabi and Adah (2021) argue that learning by staff directly relates to the policies drawn by the organization where successful organizations develop clear policies on individual professional development including provisions of funding and academic leave. A conducive learning environment is created within the organization and individual staff members are facilitated to enhance their academic and professional qualifications which consequently leads to improved performance of the organization.

Capacity building is a long-term and continuing process, in which all stakeholders including managers, user groups, professional associations, academics and others participate (Khan & Khan, 2019). Li and Fleury (2020) observed that staff capacity building could be considered under three perspectives: staff development, marketing, and innovations; and that innovation and technology play an essential role in the

realization of contemporary initiatives and approaches in capacity building commensurate with the changing times. Bilginoğlu and Yozgat (2018) argued that the performance of an organization could be measured by the level of intellect exhibited by the staff members.

The theory has been criticized for concentrating mainly on knowledge acquisition as it considers knowledge as the most important resource for the success of firms (Teece, 2018). This is not accurate as other capacity building activities are critical to the performance of organizations. It is further argued that unless the knowledge possessed by the employees is harnessed and utilized for the achievement of goals and objectives of the firm, this important resource is insignificant (Li *et al.*, 2020). However, studies have found that a substantial part of a firm's competitive advantage is related to its intangible assets, of which knowledge is one important component, along with brands, reputations, and unique business processes, which are difficult to measure but like knowledge is not storable and must be disseminated for it to be useful.

Capacity building theory was found to be appropriate to this study given the importance of capacity building as related in a study by Nwankwo (2017) titled effects of capacity building on organizational performance of multipurpose cooperative societies in Osun state of Nigeria. This theory therefore explains the variable capacity building and links it to the dependent variable which is performance of safety management system in the Aviation Industry in Kenya.

2.2.3 Upper Echelon Theory

The theory was explicitly set forth by Hambrick and Mason (1984) and states that top executives view their situations through their own highly personalized lenses whereby the top management team members' characteristics, including their past experiences, values, and personalities, affect how they make strategic and organizational decisions (Dahri, Madihariaz, Amin & Waseem, 2019). Personalized inference of strategic situations arise as a result of differences among executives in their experiences, values, personalities and other human factors. Upper echelon theory (UET) dwells on the relationship between managers, organizational processes

and outcomes and is built on the premise of bounded rationality, which states that informational complex and uncertain situations are not objectively knowable, but are merely interpretable (Chua, Liew & Huang, 2022).

The theory was founded on the premise that organizational outcomes are directly impacted by the knowledge, experiences and expertise of those individuals occupying prominent managerial roles in the organization (Dahri *et al.*, 2019). The study introduced a model in which situations occurring in the context of organizational life are addressed by managers whereby strategic choices are made as a function of the unique characteristics these individuals exhibit. As a result of the choices made by these individuals, organizational performance is argued to be directly impacted.

Due to the fact that cognitions, values, and perceptions of top management team employees are difficult to measure, UET focuses on examining demography to suggest that managerial characteristics are reasonable proxies for underlying differences in those traits (Sarwono & Bernarto, 2020). Thus, variables such as age, number of years and specific focus of work experience, and educational background can be applied to predict the actions of top management team employees when faced with strategic decisions in organizations (Rahim, 2017). The application of UET in the study of organizations, has two challenges for scholars examining the role of upper echelons in determining organizational performance. First, determining whether to focus the research on a single individual such as the chief executive officer or on a group of managers such as the top management team is an important decision in application (Sarwono *et al.*, 2020).

Some scholars have criticised the theory arguing that it was not conclusive on the relationship between the characteristics of managers and the organizational outcome (Duursema, 2019). Similarly, the assumption that similar characteristics yield similar strategic actions has not been confirmed. Since most organizations exist as hierarchically structured systems, it is often difficult in practice to identify and isolate single-level relations that operate independent of other levels (Georgakakis *et al.*, 2017). Despite these limitations, the theory sheds light on how the perception and

the characteristics of the managers can influence the performance of organizations. According to Durdyev, Omarov and Ismail (2017), the theory highlights that executive cognitive base, demographic characteristics, resource utilization, quality of decisions and capabilities influence organizational performance.

Bryson (2018) opine that the effectiveness of any organization is triggered by executive commitment in management, monitoring of the process and putting forth a clear direction of the project. Upper echelon theory was used in this study to explain the variable strategic leadership and its influence on performance of safety management system in the Aviation Industry in Kenya.

2.2.4 Resource Based View

Resource Based-View (RBV) was developed by Penrose (1959) who suggested that an organization should be considered as a collection of physical and human resources bound together in an organizational structure. Resource Based Theory states that a firm's performance is mainly driven by a unique set of resources that are valuable, rare and difficult to imitate (Barney, 2020). The theory suggests that each firm develops competencies from the firm resources to gain unique competitive advantage over their rivals (Shillingi, 2022). Safari and Saleh (2020) classified resources as physical assets and intellectual assets where physical assets are easily distinguishable due to their tangible existence whereas intellectual capital is relevant to the intangible aspects of human resources such as employee skills, knowledge and individual competencies.

Overall, the resource-based view addresses two key points where first, it holds that a resource should provide economic value and must be valuable, uncommon, poorly imitable and non-substitutable; and secondly, resources usually determine firm performance (Barney, 2020). The chosen business strategy supports an organization to best and fully exploit its core competences given the available opportunities in the organizations' external environment (Lynch, 2021).

The theory emphasizes internally on assets, organizational processes, capabilities, knowledge, information, and other capacities controlled by an organization that

permits the development and implementation of effective strategies (Safari *et al.*, 2020). The kinds of barriers that many organizations run into may be considered in two categories namely internal and external environment problems (Issa, 2019).

Considerations of the two standpoints are no doubt essential as organizations may also be seen as bundles of human and physical resources and capabilities which create sustainable competitive advantage in such a way that they are rare, valuable, non-substitutable and inimitable (Ferlie & Ongaro, 2015). The theory demonstrates how organizations should mobilize resources and leverage on enhanced capabilities to enable them in achieving their objectives successfully (Kogo & Kimencu, 2018). RBV is relevant to implementation of strategies and any effort or attempt by an organization to implement its strategies will require tangible resources such as human capital, finances, machinery and even buildings and other forms of infrastructure (Gebhardt & Eagles, 2014).

Critics of the research-based view theory have pointed out that the definition of a resource is not clear to work with and the theory has weaknesses as elucidated in various literature (Zatta, Tambosi, Campos & Freitas, 2019). The study alluded that the RBV theory has no managerial implications and that it implies infinite regress and besides this, the study further argued that applicability of RBV is too constricted. Furthermore, the study argued that sustained competitive advantage is not achievable and that the related critique is that the RBV invokes the illusion of total control. Therefore, based on the literature on RBV, the theory succinctly explains firm resources as a variable in this study and how firm resource influence the performance of safety management system in the Aviation Industry in Kenya.

2.2.5 Organizational Culture Theory

Jaques (1951) propounded the term organizational culture in his book ‘The Changing Culture of a Factory’. The theory states that organizational culture is a pattern of shared basic suppositions learned by a group as it resolves its problems of assimilating internal and external routines that have 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).

Organizational culture is deliberately designed by management to attain specific strategic goals and is elucidated as the basic beliefs that are regularly held, shared and learned by a group that determines members' perceptions, feelings, thoughts and actions, and that they are representative of a group way of operation (Zhai, Wang & Ghani, 2020). Different concepts of culture stem from two distinct disciplines namely, anthropology and sociology. These concepts have been applied constantly in organizational studies since the early 1980's (Schein, 2019). Anthropology views culture as a metaphor for organizations, defining organizations as being cultures, while sociology brings on the functionalist view and defines culture as organizational possessions.

One of the most widely used organizational culture frameworks is that of Schein (2019) which adopts the functionalist view and describes culture as a pattern of basic assumptions, invented, discovered, or developed by a given composition, as it learns to cope with the problems of external adaptation and internal integration, and that has worked well enough to be considered valid. In the model, culture exists on three levels: artifacts which are difficult to measure; values which deal with espoused goals, ideals, norms, and moral principles, and is usually the level that is usually measured through survey questionnaires; and underlying assumptions which deal with phenomena that remain unexplained when insiders are asked about organizational culture values.

It is the leaders' task to align organizational culture with strategy for successful implementation and performance outcomes (Andrianu, 2020). The theory has been criticized as it assumes that organizational culture should be consistent and supportive of the performance of a strategy, whereas there are other factors that determine performance, including motivation, knowledge asset and knowledge management (Fernandes, 2018). Naqshbandi and Tabche (2018) indicated that organizational culture influenced work behavior of workers by generating new sets of shared values and therefore implicitly suggesting that organizational culture could play a significant role on the performance of safety management system. In this study, organizational culture theory has been used to explain the moderating influence of organizational culture as a moderating variable of the study.

2.2.6 Domino Theory

Heinrich (1931) developed a theory of accident causation and control, and purported that all accidents, whether in a residence or at a workplace environment, are the result of a chain of events. The theory holds that there are five dominos that are necessary

for the causation of an accident in an industrial setting (Mwaruta, Karanja & Kamaara, 2023). The chain of events consists of sequential factors being ancestry and social environment, an individual's mistake, an unsafe action or physical hazard, the actual accident, and an injury as a result of the preceding factors. The theory provides an explicit sense of the occurrence of accidents in industries (Young & Leveson, 2014). The proponents of the Domino Theory postulated that an accident occurs from a sequence of events and the events are not just a single action a chain of loopholes which are not detected or actioned on within reasonable time are the major contributors of industrial accidents (Young & Leveson, 2014).

The Domino theory is built on a number of backgrounds referred to as domino where the first one is the background that represents a worker's lifestyle and personality (Tang, 2019). The second domino is personal characteristics representing a worker's attitude, level of knowledge as well as physical and mental conditions. The third domino is unsafe acts and unsafe conditions that are represented by a worker's behaviour and unsafe job conditions. The fourth domino is the accident represented by an unplanned event caused by an unsafe act or condition and the fifth domino is the injury represented by someone getting hurt (Young & Leveson, 2014).

Some critics of this theory argue that the domino effect is considered to be linear whereas the actual causation may be omnidirectional. Maurino (2017) alluded that the loopholes leading to accidents or incidents, including non-compliance occurrences need not be as result of a prior occurrence. The theory does not seem to leave room for the unexpected external factors and depicts that when a safety occurrence is present, it is normally because of several earlier events that would have been employed as interventions. The domino theorists contend that for any given incident, there is a chain of events and weaknesses leading to the occurrences. The

chain of events may be as a result of systemic failures, organisational weak links, and/or individual human errors.

Heinrich (1931) as cited by Maurino (2017) states that each step of accident sequences in domino theory is followed by the next so that, finally lead to an accident. Also, it is widely held that some general accidents are created due to acts of God. It is noticeable that acts of God concept in domino theory imply the fact that there might be a level of risk which is not manageable and investigations do not need to look for many complexities interrelating with other reasons as well. Maurino (2017) postulates that organizations have to provide suitable protection for the probable risks that can arise from either the unsafe acts or the consequences in terms of the peoples' well-being involved. The level of the protection must be defined logically in such a way that it should not cost more than is required and, vice versa, not to be less than associated probable risks to be occurred.

Mwaruta, Karanja and Kamaara (2023) alludes that approximately everybody who involves in business has experienced the processes of domino theory. It infers that establishing and conducting that line of the theory is easily possible by all individuals. Blame placing on the person who creates harm to others can easily be recognized based on the sequence of the theory. Consequently, an appropriate blame can be placed on the right individual in order to compensate the loss or the injury imposed, hence, the theory is desirable for those people who have lost their rights (Tang, 2019).

The theory relates with the performance of safety management system which is the dependent variable of this study, since the aviation safety management system focuses on identification and resolution of safety events and concerns in a system (Tang, 2019). This study sought to determine the linkage between stakeholder collaboration, capacity building, strategic leadership and firm resources, moderated by organizational culture on performance of the safety management system in the Aviation Industry in Kenya. Thus, the study endeavoured to interrogate deeper into understanding how domino effect has a bearing on the processes leading to safety

concerns and the influence of the independent variables on performance of safety management system in the Aviation Industry in Kenya.

2.3 Conceptual Framework

Ravitch and Riggan (2017) elucidated the conceptual framework as a series of sequenced, logical propositions whose purpose is to ground the study and buttress the study's importance and rigor. Adom, Hussein and Agyem (2018) expounds conceptual framework as a pictorial diagram depicting the interdependence and the connection among various variables in a study. This study conceptualized that performance of safety management system, being an outcome variable, was dependent on stakeholder collaboration, capacity building, strategic leadership and firm resources and moderated by organizational culture. The conceptual framework is as depicted in Figure 2.1;

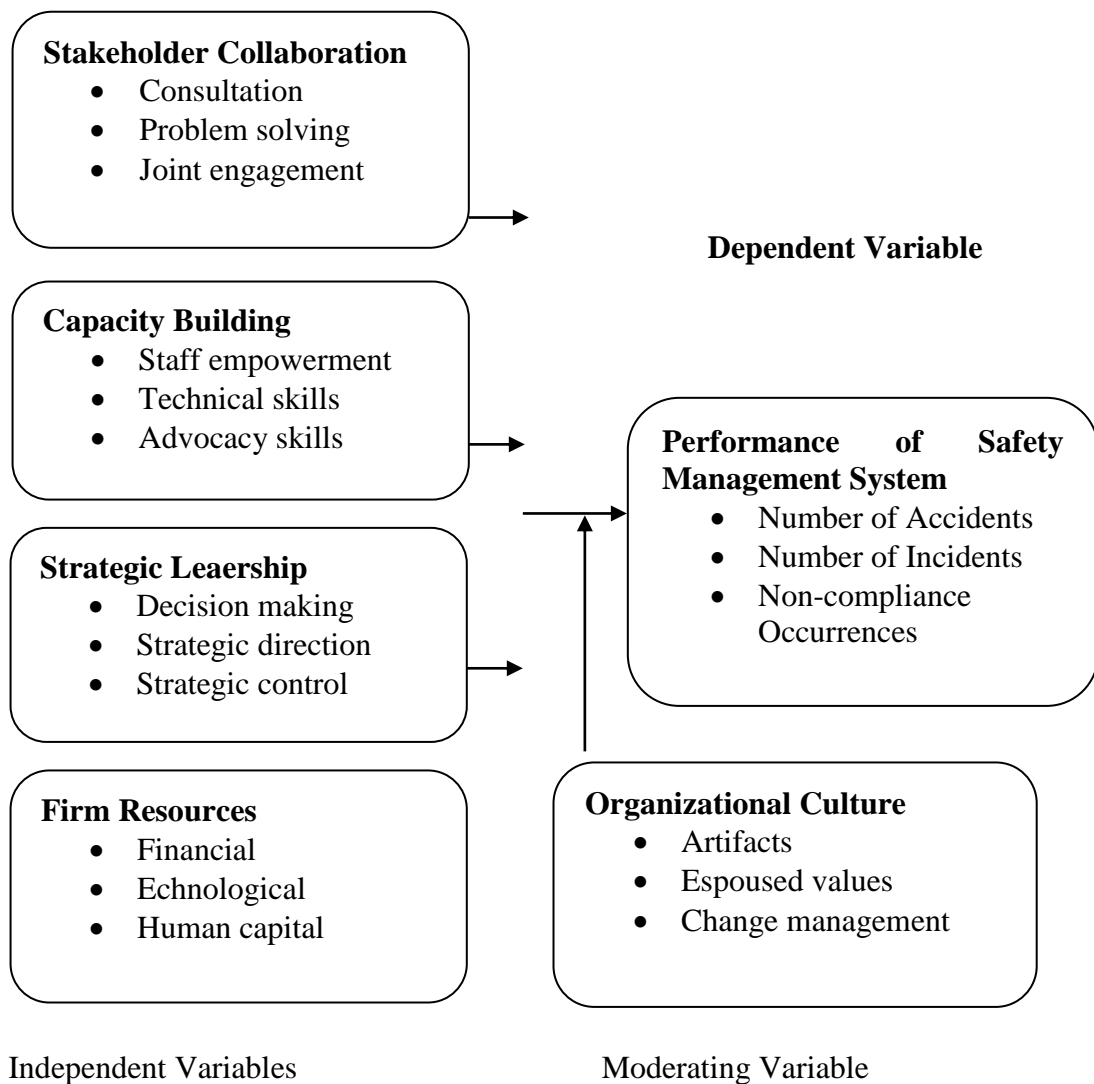


Figure 2.1: Conceptual Framework

(Source: Author, 2023)

2.4 Review of Literature on Study Variables

2.4.1 Stakeholder Collaboration

A stakeholder is any group or individual who can affect or be affected by the achievement of organizations' objectives (Odhiambo *et al.*, 2016). The primary stakeholders in a typical corporation are its investors, employees, customers and suppliers. However, the modern theory of the idea goes beyond this original notion to include additional stakeholders such as a community, government or trade

association (Ombati, 2018). Bourne and Weaver (2016) identified stakeholders in a business environment to include all locally affected communities, individuals and their representatives, national or local government authorities, politicians, religious leaders, civil society organizations and groups with special interests, the academic community and other businesses.

Odhiambo *et al.*, (2016) observed that stakeholder collaboration ensures successful implementation of projects and requires working directly with major players in the industry to ensure that their concerns are fully understood and considered in decision-making. Furthermore, politicians and government are stakeholders who are difficult to avoid given their significance towards successful execution of strategic plans in Tanzania's executive agencies (Gebhardt *et al.*, 2014). Mwangi and Kisimbi (2020) noted that timely financing, contractor competency, stakeholder participation, and management skills influenced performance of aviation construction projects.

In stakeholder collaboration, a group of individuals that are directly or otherwise involved in a project or program are brought together to exchange ideas and provide pathway for success. The process goes beyond individual or group's own vision of what is possible to a collective viewpoint (World Wildlife Fund, 2018). Consistent consultation procedures can make it easier for stakeholders to participate, however, this must be balanced with the need for consultation arrangements to be designed to suit the circumstances of the particular proposal under consideration (Nzioka & Kariuki, 2021).

Consultations with stakeholders may take a number of forms affected in a number of phases involving invitation of stakeholders' submissions. The aim is to attract contributions from interested parties in the public where workshops may be organized with breakout groups for each priority in subsequent phases of consultations contributing to improvements and leading to changes and amendments in policies and regulations that are drafted and published (Elena, 2015). Nzioka *et al.*, (2021) argued that proposal to introduce a new program can only be strengthened by information and perspectives of stakeholders and its execution may be impossible without their involvement at all stages.

Stakeholder collaboration can also help in improving the perception of project quality and irrespective of the outcome of the project, if the stakeholders deem that their inputs are valued and executed, they will have a positive perception regarding the project. One of the prime goals of a project manager is to ensure that the project gets completed using minimum costs and collaborating with the stakeholders using collaboration mechanisms that help in achieving organizational goals (Nzioka *et al.*, 2021). Fewer chances of cost overruns occur when the stakeholder is involved from the start and this ultimately results in improved performance of organization. When the stakeholders are involved from the start, it increases the odds of a speedier closure of the projects and it results in great cost savings that benefit everyone involved with the project.

Collaborative problem solving has been receiving increasing international attention because much of the complex work in the modern world is performed by teams hence collaborative problem solving is an important skill that is increasingly recognized as being critical to efficiency, effectiveness, and innovation in the modern global economy. This should not be limited to a few players rather should involve key decision makers and those capable to tilt the course of a strategy. The involvement of key players is critical to the process of safety management implementation and operation. To sum up, close stakeholder collaboration using work management mechanism is essential, thus greater stakeholder engagement and involvement will help in ensuring delivery of quality project outcomes which in turn, makes a positive impact on organizational performance.

2.4.2 Capacity Building

Capacity building is the conceptual approach to development that focuses on understanding the obstacles that inhibit people, governments, international organizations and non-governmental organizations from realizing their development goals while enhancing the abilities that allow them to achieve measurable and sustainable results (Zakikhani, Solymani, Ahmadi, 2020). Capacity building is one vital pillar in the performance of an organization and is considered in various researches and in practice (Odhiambo *et al.*, 2016). Aviation Industry is known for

efficiency, orderliness and safety and therefore in order to achieve the high levels of safety measures, it requires high staff capacity and capability.

Knowledge and expertise are paramount ingredients of a successful organization and the concept of building capacity has been embraced by many organizations over the years as the proponents focused on key competencies that include knowledge, skills and work behaviour. The ideas can be traced to a stream of change management strategies and lessons over time and still new approaches are being developed (Odhiambo *et al.*, 2016). Rugumamu (2011) noted that staff capacity building strategies have been widely adopted in donor development projects where deliverables are enormous and time is limiting and achieved through staff empowerment and skills development.

Employees in an organization are one of the resources that drive attainment of set objectives and general productivity thus increased performance (Alnidawi, Alshemery & Abdulrahman, 2017). Employees need to be skilled properly and adequately in order to enhance productivity in the organization through resources including capital, machine, and any other human resources. Insufficient capacity building occasions tension between management and the workers and consequently negative influence in the organization's performance. Advocacy skills development plays a significant role in every organization's excellence and the strategy is widely used to gain competitive advantage (Zakikhani *et al.*, 2020).

Enhancing capacity building in an organization starts with the planning process and it involves sensitization of staff, definition of roles and duties for current and future structures taking into consideration the projected growth, and identifying that the current and future needs of the organization represents an important part in the development of staffing plans which can be accomplished by developing job descriptions to lay out the positions required within the organization to meet various responsibilities (Alnidawi *et al.*, 2017). Organizational development aims at strengthening an organization's capacity so that it can achieve its goals and fulfil its mission. Organizational development incorporates more than increasing the capacities of staff.

Improving management practices is a well-accepted tenet in the business world. However, this practice has traditionally received short shrift in the corporate nonprofit realm. The focus has been more on projects infrastructure rather than capacity building. Without capacity-building, there is a risk focusing all energy and attention on providing services and expanding projects. This lack of a strong foundation may lead to organizational instability, which might appear in old and deteriorating equipment, poor communication between leadership and staff, and mission drift, which means a loss of focus on the organization's founding principles.

Capacity building is aimed at improving skills for carrying out key functions, solving problems, defining and achieving organizational objectives. Capacity building can be focused on three levels: human resources development, denoting training coaches; organizational development, being integrating life skills training in processes and programs; institutional development focusing on capacity building to partner with the private sector to implement various projects. Human resources development aims at improving expertise and skills of employees and volunteers. At the individual level, capacity building involves finding information, gaining insights, changing perceptions, values, and practical skills, as well as attitude and style (Zakikhani *et al.*, 2020).

2.4.3 Strategic Leadership

According to Otieno *et al.*, (2020) strategic leadership is the ability to shape an organization's decisions and deliver high value over time, not only personally but also by inspiring and managing others in the organization. Strategic leadership is a managerial capability that enables a firm to predict, keep flexibility, and endow others to generate strategic change and a possible future for the firm (Kitonga, Bichanga & Muema, 2016). The organization's sustained presence is dependent on the capability of the leadership to keep on reinventing motives for the organisations. The leader must have the ability to focus on the organization's operational activities and at the same time monitor the changes that affect the organization, both internally and externally. Such changes are bound to determine the existence of the organization in the future and they are prospects to grow the organization.

Kabetu *et al.*, (2018) noted that the performance of any firm is dependent on its leaders. Organizations perform poorly if the leadership aches from the flaws like the inability to convince its employees to follow its vision; the failure to counter or recognize threats; inability to manage resistance to change; and misjudging their capability to control the external environment. Strategic leadership research focuses on administrative work, not only as relational but also as a vital and symbolic activity (Hesterly 2018). Samsudin (2020) submits that strategic leadership as a component of corporate governance influenced land administration functions, further asserting that leadership plays a significant role in enhancing timeliness, security, cost effectiveness, accessibility of information and fairness in service delivery.

Where efficiently adopted, strategic leadership in the requisite public agencies ensure institutionalization of rules and procedures in the already established and elaborate institutions in the land sector. Bindra, Parameswar and Dhir (2019) alluded that strategic direction is not only a helpful way in which the dominant coalition impacts organizational outcomes, but also the symbolism and social construction of top executives. Hesterly (2018) alludes that there is a distinction between the terms leadership and strategic leadership.

The literature avers that leadership theory is about leaders at any level in the organization while strategic leadership theory involves the study of people at the top of the organization. Strategic leaders act as a resource to an organization as they play a major role in the achievement of a competitive advantage. Soleh and Sule (2020) posit that strategic leadership focuses on how top leadership make decisions which in the short-term view guarantees the long-term viability of the organization and that best-performing organizations are consciously strategic in their leadership planning (Wang, 2018).

Strategic leadership is a leader's ability to visualize, plan, lead, and make the best out of the resources, they have to execute strategies efficiently and successfully. Strategic leaders marry their strategic plan to their strategic management. Their organization respects their leadership role and overall vision while working to bring that vision to life. Productivity and management mindset play

major roles on how leaders think and equaling how they lead. A strategic mindset reflects strategic agility: the ability to see how the big picture relates to the here and now. It is imperative that a leader in the organization is strategically focused and strategic leaders ought to drive the strategy formation in their organizations; without their interest, enthusiasm and understanding the organization would not be strategically focused.

Individuals can make a difference but strength comes from staff working together to achieve the same goals and if people are working together, decisions and implementation of decisions will tend to be better as there will be a higher level of trust and morale. Therefore, the proposed model focuses on the organizational leader who when they are also to be strategic leaders, need to understand themselves, their organizations and others in the ecosystem and the wider community. The top leaders can efficiently align human resources directly to the business strategy. Steinbach, Gamache and Johnson (2019) indicated that a well-designed strategy with effective and a strong pool of skills positively influences implementation of strategies, whereas poor leadership is deemed as one of the crucial hindrances to implementation of strategies in an organization.

2.4.4 Firm Resources

Ivana and Ondřej (2018) described firm resources as assets that are available to a firm to use during the production process and these may be human resources, financial resources, material resources, technological resources, physical resources, and information resources. Resources are the basis of organizations' power and dominance over their competitors and survival of any organization relies on its ability to acquire and retain resources. Organizations' survival in the competitive business environment therefore relies on their ability to efficiently utilize resources and have adequate human skills for coordination (Barney, 2018).

Barney (2020) asserted that a firm's resources include all assets, capabilities, processes, firm attributes, information and knowledge under its control. Resources enable a firm to conceive and implement strategies that improve its performance. Firm resources may be defined as both the intangible and tangible assets a firm uses

to choose and implement its strategies (Shilling, 2022). Andersén (2021) asserts firms control resources under various categories that can potentially contribute towards enhanced performance in realizing their objectives. Tangible resources are easily identified and evaluated because physical resource and financial resource are recorded in the firm's financial records.

Physical resources include land and buildings, plant, equipment, machinery and tools and this includes technological equipment like machines, computers and information systems. Intangible assets are not physical in nature and may include goodwill, brand recognition and intellectual property among others. It is paramount to understand how financial allocation is carried out in an organization as this determines the number of activities that can be undertaken within a given period as well as the budgetary alienation (Andersén, 2021). As well, the financial utilization is a key factor as not all the allocated financial resources may be effectively utilized. Both activities of financial allocation and utilization may have a huge effect on availability of material resources though not the only factors.

In general, the strategic value of an organization's resources and capabilities increases with an increase in some key features. The more difficult the aspect in the firm's resources and capabilities to buy, imitate or substitute, the greater their strategic value to the firm. Invisible assets such as tacit organizational knowledge or trust between management and labour cannot be dealt or easily replicated by competitors, since they are deeply rooted in the organization's history. Such firm-specific and often tacit assets accumulate slowly over time. This idiosyncrasy and imperfect mobility make this difficult to imitate and their development time usually cannot be easily compressed.

The presence of complementarity implies that the firm's resources and capabilities are of higher value when combined than if deployed individually and further increases their strategic value to the firm. Conversely, the strategic value of the firm's resources and capabilities declines to the extent that they are substitutes. The extent of human resources available in an organization will most likely affect the level of performance in an organization and therefore this research endeavoured to

determine that effect (Ivana *et al.*, 2018). These characteristics of the organization's resources and capabilities reflect a trade-off between the specialization of assets which is a necessary condition for realizing above-normal profits or economic rents and the robustness of these assets across alternative futures.

The more uncommon, firm-specific and durable an organization's resources and capabilities are, the more valuable they can be to the firm. First, organizations with a scarce resource or capability can pursue market strategies based on these characteristics to develop their competitive advantage, since most other firms would find these strategies too costly and time-consuming. Second, firm-specificity and the presence of transaction costs suggest that the value of some resources and capabilities will be lower when deployed by other organizations in the same or in alternative uses. Third, the more durable the resources and capabilities, the smaller the investment, if any, required to offset their depreciation. Unlike physical capital, most capabilities are enhanced with use, since more experience is gained.

2.4.5 Organizational Culture

A moderating variable is a variable that acts as an intermediary between the dependent and independent variables (Creswell & Poth, 2018). This study used organizational culture as the moderating variable and briefly defined organizational culture as a system of shared values, assumptions, belief and norms that join organization members (Dekker, 2018). Genc (2017) described organizational culture as a collection of relatively unchanging and enduring values, beliefs, customs, traditions and practices that are shared by an organization's members, learned by new recruits and transmitted from one generation of employees to the next. Organizational culture influences the way business is conducted at the business premises including the relationship between staff, clients and stakeholders.

Schein (2019) indicated that organizational culture, also called corporate culture as that which embraces teamwork and supportive culture. Organizational culture has a pervasive effect on an organization because it defines who its relevant employees, customers, suppliers, and competitors are, and how to interact with these key actors (Agbo & Okeoma, 2020). The culture's intensity or strength and its adaptiveness are

the components that enable organizations to meet the twin demands of internal consistency and external flexibility (Schein, 2019). When employees are made aware of the culture of their company, they will appreciate both the organization's past and present system of operation. This gives direction about the way to behave in the future and also promote the organization's way of life by enhancing teamwork.

Therefore, any organization that has a well stipulated culture often works toward common goals and can achieve efficiency because workers share success-oriented ideals (Genc, 2017). 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 organisation. 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 merged organizations have 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 organizations have a weak organizational culture, then smart objectives cannot be set, leading to goals not met, and as a result poor organizational performance (Makhlouk & Shevchuk, 2018). This is improved through supportive work environment practices and enhancing teamwork (Levine & Fiore, 2014). Successful performance of organization obliges leaders to pass the 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).

Berry (2013) noted that by seeing familiar and trusted leaders empowering positive appreciation moments all through organization, employees will start seeing and recognizing the important endeavours and commitments from their partners. Stafford *et al.*, (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 employees enhance teamwork and leads to a supportive culture where staff members feel their contributions are valued (Levine & Fiore, 2014).

Meanwhile, organizational cultures are often defined as taken-for-granted assumptions and values concerning how the world works and how people can work together

within it to achieve their collective goals (Cardiff, Sanders, Webster, & Manley, 2020). In relation to the two perspectives, both assume that the one taken for granted is characterized by multiplicity, richness and open-endedness. Artifacts, the building blocks of institutions and cultures, carry a variety of meanings even within one institution or culture. Organizational culture is linked to safety culture promoted by leaders in work environments. This research sought to evaluate cultures as derived from the broad organizational culture and deduce any moderating influence it would have on performance of safety management system in the Aviation Industry in Kenya.

2.4.6 Performance of Safety Management System

Safety management system is defined by ICAO (2021) as a systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures. Blišťanová et al. (2021) postulates that safety management system should be regarded as an aggregate strategic aspect of conventional business management. Their study describes and illustrates safety management system in aviation and focuses on the similarities and differences in the system approaches adopted by selected Civil Aviation Authorities.

The Aviation Industry adopted the use of safety management system concept which had been developed by industries such as petrochemical, nuclear, occupational health and construction in the aftermath of a number of disasters that led to enactment of safety management legislation especially in Europe. ICAO (2020) dictates that the safety management system framework at a minimum shall be established in accordance with the four component pillars of safety management. These pillars are safety policy and objectives, safety risk management, safety assurance and safety promotion and they are incorporated in an organization's structures to the extent that

is proportionate to the size and complexity of the organization in hand (ICAO, 2020; Arendt & Adamski, 2017).

The primary aim of safety management in an organization is to intervene in the causation process, which results into accidents and incidents (Blišťanová et al., 2021) which includes the positive identification of both latent and active hazards. It is a generally large system for ensuring that the safety activities are properly planned, effectively implemented, and that the follow-up system is put in place (Reason & Hobbs, 2017). The system should provide a means of making the staff aware of the safety policy of the organization and their contribution to safety within the organization. According to Chaves (2020) safety management system should incorporate processes for hazard identification and impact assessment of the associated risks, development of proactive risk mitigation strategies to prevent any ensuing incidents and to offer system integrity and reviewing the residual risk.

2.5 Empirical Review

2.5.1 Stakeholder Collaboration and Performance of Safety Management

Omondi *et al.*, (2018) conducted a study regarding stakeholder engagement conflicts and implementation of expansion and modernization projects at Jomo Kenyatta International Airport in Nairobi. The target population for this study was 135 stakeholders pooled from the three major institutions involved in the implementation of the then ongoing projects at Jomo Kenyatta International Airport in Kenya's capital city. It was deduced by the researcher that various types of relationship conflict negatively undermined the implementation of projects at the airport aided by past sour relationship among the three implementing parties of the airports authority, civil aviation regulator and the representative of the airlines. The study recommended stakeholder participation in order to curtail the general occurrence of various types of stakeholders' conflicts. Omondi *et al.*, (2018) encouraged project implementation to be anchored in law and policies to reduce the complaints from stakeholders in projects undertaken by many parties.

Odhiambo *et al.*, (2016) conducted a research study on the role of stakeholders on implementation of safety projects was conducted on air navigation services at Jomo Kenyatta International Airport. The study, which used a population of 132 respondents, submits that stakeholder involvement largely affected implementation of air safety projects. The findings further showed that the implementation of safety projects at the airport did not meet quality requirements, as the end users were not involved from conception of the project. The results of the study by Odhiambo *et al.*, (2016) indicated that the interests of various stakeholders affected delivery of projects aspects even as the appropriate channels of engagement were employed by the project teams. The policies should elaborately address collaboration with all major stakeholders in the Aviation Industry in order to achieve smooth delivery of safety projects.

Tabo (2013) undertook a study on challenges of strategy implementation among the private security companies in Kenya. The study targeted private security companies registered with Kenya Security Industry Association. The study disclosed that implementation of strategies in Kenyan private security firms experienced delays in completion; there was poor and lack of proper communication among internal stakeholders and employees also lacked the requisite training. Barney (2018) observed that stakeholder collaboration in the strategic planning process needs to be guided by particular guidelines and timelines, which specify the roles and responsibilities of every major stakeholder.

Kavaratzis and Hatch (2021) studied the elusive destination brand and the Atlas wheel of place brand management. The objective of the study was to examine the different kinds of factors and internal stakeholders' actions that contribute to destination brand identity development. Drawing from empirical research from a ski destination, the study identified five factors and four actions contributing to the destination brand identity development process. Kavaratzis and Hatch (2021) argued that involvement of stakeholder gives a way of safeguarding consent from the governed in a clearer way and can avoid oppositional confrontations or reduce litigations. It therefore emerges that deeper public relations grounded on reliable opportunities for meeting and concern sharing among stakeholders are more likely to

build trustworthiness and confidence to facilitate execution of strategies and review of processes.

Bischoff, Volkmann and Audretsch (2018) studied stakeholder collaboration in entrepreneurship education: an analysis of the entrepreneurial ecosystems of European higher educational institutions. Based on the collected data, it was determined that an overview of the key external stakeholder groups of the entrepreneurial ecosystem and the different forms of involvement in entrepreneurship ought to be provided. Furthermore, the strength and coordination of stakeholder collaboration and the overall approaches to stakeholder management must be factored. The analysis results in the development of a set of propositions on stakeholder involvement in the context of entrepreneurship education. The findings of the study highlight the importance of stakeholder collaboration from the entrepreneurial ecosystem.

2.5.2 Capacity Building and Performance of Safety Management System

Millar *et al.*, (2016) in analysing capacity building in non-profit sport organizations noted that it is important to view capacity building as a process and not a one-off event and to consider how organizational capacity building processes are linked with the local environments in which they operate. The experience of capacity building is an essential determinant on performance of organizations and improves staff abilities for inventions by building their capacities. A long-term plan is required to achieve high professional and academic levels among the employees of an organization (Li *et al.*, 2020).

A survey carried out by the Association of African Aviation Training Organizations (AATO) in 2012 noted that Africa loses aviation professionals and highly skilled employees trained on meagre resources of civil aviation authorities, air navigation service providers, airports and airlines to other regions outside the continent where more competitive terms of service are offered. The rate of employees leaving is damaging and is increasingly reaching unmanageable levels. This affects the ability of Africa to deliver quality and safe services if measures are not urgently taken to arrest the situation.

During the Association of African Aviation Training Organizations Consultative Assembly held in Niger in 2013, it was agreed that harmonization of aviation training among African states will offer an opportunity not only to increase the availability of affordable and quality training throughout the continent, but also promote compatibility among operators and safety oversight organizations. It would also improve efficiency and effectiveness and reduce the economic burden on states and aviation service providers who have to comply with different requirements. Pradhan (2019) postulated that hiring capable people is just a starting point but building and sustaining a committed workforce is more likely to be facilitated by the employment of sophisticated human resource management infrastructures.

Otibine (2016) reviewed effects of capacity development strategies on the performance of the Department for International Development (DFID) in Kenya. The research focused on the effects of capacity development strategies on performance of the Department for International Development in Kenya. The findings established that DFID capacity development strategies encompassed effective financial management, human resource development and information and communication technology as well as continuous automation of systems. These capacity development strategies contributed to the timely and accurate financial forecasting, effective program management and enhanced associations between employer and employees.

Karimi, Mulwa and Kyalo (2021) determined the stakeholder capacity building in monitoring and evaluation and performance of literacy and numeracy educational programme in public primary schools in Nairobi County, Kenya. The overall findings indicated that there was a statistically significant relationship between stakeholder capacity building and performance of literacy and numeracy educational programme. The research suggested that stakeholder capacity building was part of the participatory monitoring and evaluation process, and it must be observed at all stages to ensure educational programs are implemented to the letter by bringing on board all the key stakeholders in education and particularly in literacy and numeracy skills aspects. Karimi, Mulwa and Kyalo (2021) found it evident that participatory

monitoring and evaluation process was not strong in the education environment though urged that it can be realized fully through proper supervision.

Wanjiku and Kithae (2021) reviewed capacity building and women leadership in farmers' cooperative societies in Kenya: a survey of cooperative societies in Kericho County. The study specifically sought to evaluate the effect of governance training on women leadership and to assess the effect of financial management training on women leadership. The findings indicated that there was a moderately positive association that was statistically significant between governance training and women leadership. It was therefore concluded that capacity building had a positive influence on the performance of women leaders in farmers' cooperatives.

2.5.3 Strategic Leadership and Performance of Safety Management System

In Pakistan, Witts (2016) determined the influence of strategic leadership on the profitability of commercial banks and established that strategic leadership in terms of strategic thinking, strategic direction and development of core competencies significantly influenced organizational financial performance. Witts (2016) underscored the importance of stakeholders to understand the influence that strategic leadership skills have on the performance of the organizations. Furthermore, the study found a significant gap in leadership as most organizations fail to achieve the desired profitability due to a limited experience and exposure to strategic leadership. In South Africa, Jaleha *et al.*, (2018) indicated that strategic leadership had a positive and significant influence on organizational performance measured in terms of earnings per share (EPS) and return on assets (ROA). The components of strategic leadership included purpose and vision, determination of strategic direction, maintenance of core competencies, emphasis on ethical practices and establishment of strategic control.

In Iran, Mahdavian, Mirabi and Haghshenas (2014) noted that strategic thinking had an acceptable level among municipal managers of Mashhad City and all factors of strategic thinking including conceptual thinking, systematic approach, foresight, opportunism, cognition and transformational leadership improved their performance. In Libya, Toubia, Abdulrab and Ameen (2015) indicated that even though employees

were moderately involved in strategic thinking, strategic thinking had a positive influence on organizational performance in the oil and gas industry.

Essien, Adekunle and Oke-Bello (2019) investigated the relationship between strategic leadership and staff turnover in Nigerian banks. The objective of the study was to determine the effects of strategic leadership and staff turnover with a special reference to banks in Nigeria. The study data which was collected through questionnaires and analysed using the regression method alluded to the existence of positive relationship between strategic leadership and staff turnover in Nigerian banks. The study concluded that in order to have a satisfactory and productive workforce, organizations must design effective strategic leadership plans that enhance employee performance.

Orito (2021) examined strategic leadership and performance of state corporations and departments in the Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works in Kenya. Orito (2021) found that strategic leadership dimensions were positively established to affect organizational performance. In addition, the study established that effective decision-making as a dimension of strategic leadership drives organisational performance to a greater height.

In Kenya, Jaleha *et al.*, (2018) proclaimed that effective strategic leadership is considered as a major ingredient for the successful performance of any organization operating in the ever dynamic and complex environment. The study highlights relevant conceptual and empirical literature that bring out the external environment and organizational change that influence the relationship between strategic leadership and organizational performance. In addition, Kitonga *et al.*, (2016) identified the components of strategic leadership as strategic direction, human capital, ethical practices and organizational control, which had a significant influence on organizational performance.

Munga, Momanyi and Omari (2021) studied the effect of strategic leadership styles on organizational performance of county governments in Kenya: a focus of Lake Region economic bloc counties. The findings showed that democratic leadership

strategies were applied in the county governments. The study also found that leaders formulate policies for effective management whereby employees participated in formulation of strategic plans. It was noted that transformational leadership strategy is applied in the county governments hence the study recommended that leaders should formulate policies for managing their leadership responsibilities. From the findings, the study recommended strategic leadership as a critical determinant of organizational performance.

2.5.4 Firm Resources and Performance of Safety Management System

A firm's resources are the basis of organizations power and dominance over other organizations. They depend on how the inferior organizations rely on the superior organizations' resources (Gebhardt *et al.*, 2014). Consequently, organizations with resources that are inimitable, rare, non-substitutable and valuable qualities have a competitive advantage over other organizations in the same industry; and hence, survival of an organization relies on the organization's ability to acquire and retain resources more than other actors in the environment (Lynch, 2021).

Sorooshian, Norzima, Yusuf and Rosnah (2018) observed that the significance of human resources in strategy implementation is based on the idea that people management can be an essential source of sustained competitive advantage of a firm. This implies that organizations need to embrace better human resource management practices that build a strong asset in form of people. A strong human resource component is required for proper implementation of strategies and better performance in an organization. Further, the findings showed that performance appraisal and compensation system did not guarantee a highly motivated core of staff.

Shillingi (2022) conducted a study on the influence of organizational resources on implementation of strategic plans in Tanzania's executive agencies. The study established that majority of the respondents agreed on the influence of organizational resources towards fostering execution of strategic plans in Tanzania's public sector. Nkosi (2015) similarly highlighted the crucial role of resources in the study on factors affecting strategy implementation in a local municipality in Mpumalanga

Province, South Africa, where lack of adequate financial resources was a significant challenge in strategy implementation. Gaotlhobogwe (2017) held similar observation in a study on effect of resources availability on performance of schools in Botswana which showed that there was no difference in the perception of school going children about the availability and accessibility of learning materials in their various institutions.

Gachua and Mbugua (2016) in their study of the factors affecting strategy implementation in private universities in Kiambu County, Kenya confirmed that the implementation of strategies in private universities was highly influenced by management commitment and availability of resources for strategic decision-making. Mumbua and Mingaine (2015) in their study on factors influencing implementation of strategic plans in Machakos County, Kenya concluded that there was no proper alignment of resources with the strategic plans of the County. However, the study considered only human information resources while other resources such as materials and financial resources were not reflected in this study.

Kageni (2021) determined the influence of strategic organizational resources on performance of deposit taking savings and credit cooperative societies in Kiambu County, Kenya. Results of the study indicated that strategic intellectual resources were emphasised to a greater extent while strategic human resources, strategic financial resources, and strategic physical resources were deployed to a moderate extent. Results also showed that a positive correlation existed between performance and organizational resources sub-variables being strategic human resources, strategic financial resources, strategic intellectual resources, and strategic physical resources and were statistically significant in predicting performance.

Kimiti and Kilika (2022) studied organizational resources, industry velocity, attention focus and firm performance: a review of literature. The study addressed the diverse perspectives on the role of organizational resources in firm performance in high velocity industry context. The study found that resource-based advantages were rather transient in highly dynamic environments hence the need to constantly adapt the internal factors through firm capabilities. The influence of the external

environment on resource application decisions was however partial as only a portion of the environment was actually perceived and interpreted by strategic decision makers through the selective cognitive process of attention focus.

2.5.5 Organizational Culture and Performance of Safety Management System

Mousavi, Hosseini and Hassanpour (2015) studied the relationship between organizational culture and strategy implementation in the banking industry in Iran taking a sample of one hundred and thirty-six (136) members of Karafarin Bank. The results of the study showed that all types of organizational cultures had significant relationships with the implementation process to the extent that varied with each culture. The findings further showed that flexible approaches in policy crafting had a positive influence on strategy implementation as opposed to more procedural views. The results also put forward a significant correlation between strategic emphasis among culture and implementation of the strategy.

Zakka (2019) likewise agreed that all staff members of an organization must be bonded to culture of the organization since it encourages one accord and consistency, thus enhancing commitment through upholding of corporate values and employee performance. With the competitive industries, task environments and situations, the study proposed that to improve an organization's culture, the existing culture must be strong and provide a strategic competitive advantage and its beliefs and values must be widely shared and firmly upheld.

Kafashpoor, Shakoobi and Sadeghain (2013) carried out a study on the relationship between culture and organizational strategic effectiveness with other independent variables being organizational structure, leadership style and knowledge management, the latter viewed from a mediation perspective. The study used market share, profit, growth rate and innovation as measures of organizational effectiveness. The study focused on 14 employees of Mashhad Municipality, the second largest city in Iran. Chi-square test and linear regression were used to test the hypotheses. Results indicated that all context variables were significantly associated with organizational effectiveness. Moreover, there was a significant relationship between context variables and knowledge management and knowledge management played a

mediating role in the relationship between context variables and organizational effectiveness.

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. In Ghana, Amofa and Ansah (2017) sought to analyze the organizational culture on component conceptualization of organizational commitment in Ghana's banking industry. Statistically, the study concluded that there existed a very strong relationship between organizational culture and employee performance. The study also acknowledged that strong organizational culture encompassed strong customer centeredness, organization structure, communication, employee participation, and expert decision making.

Amofa *et al.*, (2017) investigated organizational culture and component conceptualisation of organizational commitment in Ghana's banking industry. The study advised that management have to endeavour to come up with clear decisions in their area of responsibility, roles and responsibilities. Another aspect of strong organizational culture that was emphasized was communication whereby organizational culture encourages free communication of employees with management members hence less friction between subordinates and superiors.

In Kenya, Wanjiku and Agusioma (2014) examined the effect of organizational culture on employee performance in non-governmental organizations. The study argued that organizational culture had a great influence on performance noting that it dictated how activities were conducted, organization's philosophy, work environment, performance targets and organizations stability. The study recommended the need to have a supportive culture as well as team building activities to be used as avenues of communication and the values and goals of the organization. Muturi and Bwire (2016) argued in their study on organizational culture and customer perspective manufacturing firms that organizational culture in terms of market culture, adhocracy culture, clan culture and hierarchical culture significantly influence strategic thinking at the organizational level.

2.5.6 Performance of Safety Management System in the Aviation Industry

Performance is a major construct in management because almost every researcher and scholar attempt to relate their constructs to business firms' performance (Sorooshian *et al.*, 2018). Combs, Crook and Shook (2017) viewed 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 being goals and objectives (Weir & Laing, 2014). Kim, Choi and Choi (2017) examined the trend and safety management concept in aviation and identified lack of safety culture and supervision of aviation activities as greatly influencing safety management system performance in aviation.

Chang, Shao and Chen (2015) investigated the performance evaluation of airport safety management systems in Taiwan where they looked at performance in various fields. They defined performance as communication, interpretation, adoption and enactment of strategic plans. They made 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 perspective was about formal organizational structure and control mechanisms.

Adjekum and Tous (2020) assessed the relationship between organizational management factors and a resilient safety culture in a collegiate aviation program with safety management systems. The study focussed on assessing and continuously improving resilient safety culture in high-reliability organizations such as aviation sector that has a fully functional safety management system. The results showed that four management factors including practices, policy, principles and procedures had significant predictive relationship with resilient safety culture. Practices had the weakest predictive relationship and policy had the highest. Procedures strongly mediated path between policies and practices and there was no significant causal relationship between principles and practices. Results suggested that more focus

should be placed on resilient safety practices in the collegiate aviation program to enhance performance.

2.6 Critique of Existing Literature

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. This research evaluated the performance of the safety management system operations at Taiwan's Taoyuan, Kaohsiung, and Taipei Songshan international airports. This study took the variables related safety risk management, allocation of materials and resources to conduct safety training in order to prevent aviation accidents. This study did not expound on firm level dimensions such as stakeholder collaboration, strategic leadership, firm resources, capacity building and organizational culture neither was it specific to aviation service providers in Kenya. Most studies on performance have concentrated largely on strategic plans and exclusively on various influencing factors while other studies focused on factors such as context, process, and outcomes as variables influencing execution of strategic plans in local authorities by Nkosi (2015).

Omondi *et al.*, (2018) conducted a study regarding stakeholder engagement conflicts and implementation of expansion and modernization projects at Jomo Kenyatta International Airport in Nairobi. This study did not deal with any safety aspects which are very instrumental in the Aviation Industry. The role of stakeholders in safety implications should have been evaluated. Ganapathy *et al.* (2020) carried out a study on trends and challenges of technology knowledge management through the lens of Malaysia's perspective. However, it is notable that the element of knowledge management capabilities is lacking the emphasis on knowledge sharing. The study failed to point out which element in knowledge management capability had the capacity to lead to superior performance.

Kabaiku and Karanja (2017) investigated the effect of leadership on strategy execution in private dairy firms in Mount Kenya region. The study could not be generalised to the Aviation Industry as the nature of aviation operations are highly regulated. The study also failed to evaluate performance of private dairy firms in

relation to variables such as strategic leadership and organizational culture. One of the utilized theories, the upper echelon theory does not relate how the firm resources affect the employees at lower cadres towards performance.

Stakeholder theory tend to emphasize on core management without really showing how the non-legitimate groups are catered for. Although focus is on interrelationships, most study assumes interest of stakeholders to be balanced against each other while some stakeholders never know their rightful position as stakeholders. In addition, Amofa *et al.*, (2017) sought to establish the effect of corporate cultures on employee performance in banking institutions. The study narrows down its scope to how employees perform and fails to make conclusive findings on the general performance of the banks. Moreover, the discussed literatures are outside regulated industry, Aviation Industry and safety management circles. Actually, most of the studies were on private institutions, private universities and non-governmental organizations; and hence the above findings could not be generalizable to the Aviation Industry in Kenya and specifically on safety management system performance.

2.7 Research Gaps

Many studies explored one or two of the many dimensions that affect the management of safety in the Aviation Industry. This study reviewed the gaps on the influence of strategic firm level dimensions on performance of safety management system in Aviation Industry as prescribed by the International Civil Aviation Organisation across the globe, Africa and Kenya. The literature review affirmed that much of the empirical studies undertaken in the topic under study had been undertaken outside Aviation Industry scope. Others were conducted beyond the intended geographical boundaries of this research. There is therefore a definite need to focus the study on the context of the Aviation Industry in Kenya so as to contribute to existing literature with evidence from experience.

Obembe *et al.*, (2014) evaluated the effects of technological capabilities, innovations and clustering on the performance of firms in furniture making industry in Southwestern Nigeria. The study sought to address the problem of firm performance

through technological capabilities but it was conducted in Nigeria and so it presented a geographical scope gap. It also focused solely on furniture thus failing to address the problem in the Aviation Industry in Kenya.

Gathai (2012) suggested further research to be conducted on best practices from air traffic control, airlines, fixed-base operators, and airports designing and implementing safety management system programs independently to provide insights and strategies to manage challenges, issues and concerns. Angudri (2014) conducted a study aimed at examining the factors affecting the implementation of Safety Management Systems by private Air Transport Operators in Uganda. The specific objectives of the study were to examine the influence of management commitment and organizational safety culture on the implementation of safety management system by private Air Transport Operators in Uganda and a cross sectional survey design was used.

The study concluded that management commitment and organizational safety culture were positively related to safety management system performance with respondents exhibiting a sense of belonging within the Aviation Industry in relation to organizational safety culture. The study did not include strategic leadership, capacity building and firm resources hence the subject study sought to fill the gap by reviewing essential ingredients of performance of safety management system in any organization. Gathai (2012) studied 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 Kenya Civil Aviation Authority. This study did not venture into the performance or outcome of safety management system which is a great influence on operations of the aviation organisations.

In Malaysia, a research on the effect of physical resources on academic performance of academic institutions in Lahore (Ramli & Rosmaizura, 2018) predicated that physical resources have a positive and significant effect on performance of academic institutions. The study adopted a descriptive research design and would have

generalised to include service industry like aviation. It is against this background that necessitated the subject study towards assessing the influence of strategic firm level dimensions on the performance of safety management system in the Aviation Industry in Kenya.

2.8 Summary

This study assessed the influence of strategic firm level dimensions on performance of safety management system in the Aviation Industry in Kenya. The study was guided by appropriate theories including Stakeholder theory, Capacity Building theory of change, Upper Echelon Theory, Resource Based-View theory, Organizational Culture theory and Domino theory. This chapter presented the conceptual framework of the study which depicted the independent, dependent and moderating variables and their relationships. The chapter also reviewed literature on variables, and also reviewed the empirical literature that is aligned to the research objectives. Critique of related literature was undertaken and research gaps identified.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter articulates the methods and procedures that were used to gather and analyse data on strategic firm level dimensions and performance of safety management system in the Aviation Industry in Kenya. The chapter describes the research philosophy on which the entire study is anchored on, the research design, target population of the study and the sampling design. Finally, the chapter discusses the data collection methods, research procedures, data processing and analysis techniques adopted in the study sequentially captured. Apart from providing the basis of a justification for the determination of the research outcome this chapter clearly demonstrates the understanding of the relationship that exists between the variables.

3.2 Research Philosophy

A research philosophy is the belief about the way in which data, an occurrence or phenomenon should be collected, analysed and consumed by users (Saunders *et al.*, 2014). There are various types of research philosophies as there are different disciplines of study. The business field has four types of philosophies which are pragmatism, interpretive, realism, and positivism (Saunders *et al.*, 2014). The positivism philosophy is exemplified by Metsämuuronen (2017) as knowledge in terms of empirically verifiable observation characterized by the usage of detailed analysis such as experiments, surveys or statistical analysis and is reliant on the examination and analysis of quantitative data. Padgett (2016) asserts that the paradigm uses mathematical models and formulas which help to extrapolate, generalize and hence objectively test the empirical hypothesis. Positivism philosophy assures objectivity of approach to issues, precise measurements and validity and reliability of results (Bryman & Bell, 2007). In this study, a positivism approach was employed in order to conduct a quantitative collection and analysis of data as it is concerned with testing hypotheses, structured research design and objective method using cross-sectional design (Metsämuuronen, 2017).

The approach confines the study to interpretation of collected and analysed data and ensures that the research findings are observable and quantifiable. The positivism philosophy in the study of Aliyu, Bello, Kasim, and Martin (2014) propounds that genuine, real and factual happening are studied and observed scientifically explaining through rational investigation and analysis.

3.3 Research Design

Research design refers to how data collection and analysis are structured to meet the research objectives through empirical evidence systematically and economically (Chandran, 2014). Cooper *et al.*, (2016) defined a research design as the blueprint for collection, measurement and analysis of data to achieve the stated objectives. Additionally, it serves to connect research questions to the data and articulates the means by which the research hypotheses are tested and research objectives satisfied.

This study adopted a cross-sectional survey research design which allows the researcher to collect a wide range of information without interfering with the environment since there is no window for data manipulation and it focuses on finding relationships between variables. Rahi (2017) affirms the advantage of a cross-sectional study design in that it allows researchers to compare the relationship of the different variables at the same time. The cross-sectional research design is suitable when the researcher wants to understand an issue better and come up with new ideas on what should be done to improve the current situation (Rahi, 2017). The researcher considered the cross-sectional research design in examining the influence of strategic firm level dimensions on performance of safety management system in the Aviation Industry in Kenya as the most effectual.

3.4 Target Population

A study population comprises of all the possible cases including persons, objects, and events that constitute a known whole. Mugenda and Mugenda (2013) referred to population as an aggregate or totality of all the objects, subjects or members that conform to a set of specifications.

Cooper *et al.*, (2016) defined population as the total enumeration elements that form the main focus of a scientific query. Borg *et al.*, (2017) specified two types of population namely target and accessible population. Target population consists all members of a real or hypothetical set of people, events or objects from which a researcher wishes to generalize the results of their research while accessible population consists of all the individuals who realistically could be included in the sample.

The International Civil Aviation Organization (ICAO) has mandated five aviation service providers in Kenya to implement the safety management system in their organizations. These are Air Traffic Services, Approved Maintenance Organizations, Approved Training Organizations, International Aircraft Operators otherwise referred to as international airlines, and Operators of Certified Aerodromes. ICAO has prescribed managers responsible for performance of safety management system in these organisations (ICAO, 2019). The accessible population for the study were these managers at the aviation service providers in Kenya. The list of organizations in each service provider's category is attached in the Appendices section. Table 3.1 contains a list of service providers targeted in the study;

3.5 Sampling Frame

Sampling frame is the list of elements from which the sample is actually drawn (Flick, 2015). It is also called source list and contains the names of all items of a finite universe under consideration. If source list is not available, researcher has to prepare one and it should be comprehensive, correct, reliable and appropriate. It is extremely important for the source list to be as representative of the population as possible (Kothari *et al.*, 2019).

The International Civil Aviation Organization (ICAO) has mandated the following organisations to provide aviation services in Kenya; Air Traffic Services, Approved Maintenance Organizations, Approved Training Organizations, International Aircraft Operators and Operators of Certified Aerodromes. There are 132 of these organisations in Kenya as outlined in the civil aviation regulations. The sampling

frame for this study were these aviation service providers and are as detailed in Table 3.1.

Table 3.1: Aviation Service Providers in Kenya

S/N	Organization	Number Operating in Kenya
1.	ATS Providers (KCAA Manned Airports)	9
2.	Approved Training Organizations	19
3.	Certified Operators of Aerodrome	12
4.	Approved Maintenance Organizations	50
5.	International Commercial Aircraft Operators	42
Total		132

Source: Kenya Civil Aviation Authority (2020)

3.6 Sample and Sampling Technique

3.6.1 Sample Size

Sampling refers to the selection of part of the study population to be included in the research. A sample is part of the entire population that can be used for study and has all the characteristics of the entire population, with the ability for fair representation. According to Kothari *et al.*, (2019) the ultimate test of a sample is how well it represents the characteristics of the entire population used in the research. The sample size of this study was a census of all the aviation service providers operating in Kenya as stipulated by the International Civil Aviation Organisation. The organisations are listed by the Kenya Civil Aviation Authority in its regulations since it is the aviation regulator in Kenya.

Table 3.2: Sample Size

S/N	Organization	Number Operating in Kenya	Respondents (Heads of Safety)
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: Kenya Civil Aviation Authority (2020)

3.6.2 Sampling Technique

Sampling technique refers to the process of selecting a number of individuals or objects from a population such that the selected group contains elements representative of characteristics found in the entire group (Kombo & Tromp, 2016). Kothari *et al.*, (2019) postulated that the ultimate test of a sample is how well it represents the characteristics of the entire population. To come up with an appropriate study sample, the study utilized stratified sampling technique and more specifically proportionate stratified random sampling. The proportionate stratified random sampling was used since it enables a research to captures key population characteristics in the sample. The population was grouped into five strata representing each category of the services provider. A census of all managers named head of safety in the five categories of service providers was carried out. Table 3.2 stipulates the sample size for the study.

3.7 Data Collection Instruments

Cooper and Schindler (2016) and Mugenda *et al.*, (2013) defined data collection instruments as the tools and procedures used in the measurement of variables in research. There are various methods of data collection differing in terms of costs, time and other resources at the disposal of the researcher. Mackey and Gass (2015) classify these methods as either primary or secondary depending on the research

objective. Babbie (2017) describe primary data as those items that are original to the problem under study while Klenke (2016) describe primary data as data collected by the investigator in various field sites explicitly for a comparative study. Kothari *et al.*, (2019) asserted that primary data is original information collected for the first time. Secondary data is information that has been collected previously and that has been put through the statistical process. This study applied primary and secondary data.

Primary data was collected using questionnaire whereas secondary data was obtained from the Flight Safety Foundation website. Kothari *et al.*, (2019) regard questionnaires as the most important means of data collection and are the most common method applied to diagnose the functioning of institutions. There are three basic types of questionnaires: close ended, open-ended or a combination of both. The researcher used a questionnaire with both close-ended and open-ended questions where the respondents were required to explain briefly. Kothari *et al.*, (2019) elaborates open ended questions as questions that usually prompt the respondents with a question then they provide own response on the space provide. Similarly, Mugenda *et al.*, (2013) expounds on close-ended questions as questions that grants the respondents with a list of choices or alternatives to provide predetermined responses. Secondary data was collected using a Secondary Data Collection Sheet and populated with data obtained from the Flight Safety Foundation website.

3.8 Data Collection Procedure

To ensure that the study complied with all ethical issues pertaining to any research undertaking, permission to conduct the study was obtained from Jomo Kenyatta University of Agriculture and Technology's administration who issued an approval letter for the research and also gave out a request letter to aviation service providers to participate in the research by filling questionnaires. A research permit was also obtained from National Commission for Science, Technology and Innovation (NACOSTI). A full disclosure of all the activities concerning the study was explained to management of individual institutions indicating that the intention of the

study was for academic purposes only. Privacy and confidentiality were observed and the findings of the study submitted specifically to the University.

A questionnaire was self-administered to the 132 managers responsible for safety who are considered to be knowledgeable and custodians of information related to the performance of the safety management system in their respective organizations. To ensure maximum response, the organizations were first contacted and adequately informed about the intended data collection exercise. The questionnaires were physically availed to the respondents while some were emailed to avoid physical contact as it was during the COVID-19 pandemic. Secondary data was obtained from internet sources and mostly from the Flight Safety Foundation. The respondents were adequately informed about the purpose and nature of the study and that their answering of the questions was voluntary.

3.9 Pilot Test

A pilot study refers to a preliminary test conducted before the final study to ensure that research instruments are working properly and can be used as a small-scale version of trial run in preparation for a major study (Kombo *et al.*, 2016). The study carried out a pilot test to check the validity and reliability of the questionnaires in gathering the data required for purposes of the study. Kombo and Tromp (2016) and Kothari *et al.*, (2019) described a pilot test as a replica and rehearsal of the main survey.

Klenke (2016) states that the purpose of a pilot test is not so much to test research hypotheses but rather to test protocols, data collection instruments and other aspects of a study in preparation for a larger study. Its purpose is to discover any weakness in the questionnaire design or content and its ability to procure the essential information for the research study. Aspects that were evaluated in the pilot test include order of sections, wording and type of inquiries, choice of respondents, and the time required to fill the questionnaire and other constraints such as respondent fatigue, which could be considered when designing the final questionnaire (Andrade, 2018).

For this research, the pilot study was done at Kenya Airways and Kenya Airports Authority where respective station managers formed the pilot group. Twenty (20) questionnaires, corresponding to 15% of the target population, were used in the preliminary pilot study. The questionnaires were distributed randomly within the pilot group who were not included in the main study. This number was considered sufficient for the preliminary study as Osuagwu (2020) argued that a sample of 10% to 20% of the sample size for the actual study is a reasonable number of respondents to consider for participation in a pilot study. At the end of the pilot test the questionnaire was modified, both in wording and format to reduce the possibility of ambiguity of some of the questions before delivering them to the respondents. The amended questionnaire was then used to collect data in the final study.

3.9.1 Validity of Research Instrument

Validity is the extent to which an instrument measures what it is supposed to measure and performs as it is designed to perform. Babbie (2017) expounds validity as the degree to which results which are obtained from the data analysis represent the phenomenon being studied. Validity is measured in degrees and it is rare that an instrument can be 100% valid. As a process, validation involves collecting and analysing data to assess the accuracy of an instrument. There are numerous statistical tests and measures to assess the validity of quantitative instruments, which generally involves pilot testing. According to Mugenda *et al.*, (2013) construct validity is an assessment of the degree to which data obtained from an instrument considerably and exactly describes a theoretical view.

For the purpose of this research, aviation safety professionals and lecturers in the field of Strategic Management were engaged to provide their expert opinions concerning the content and face validity of the research instrument. As an outcome of this criteria, and according to Kothari *et al.*, (2019), the research would be free from bias, balanced, relevant and generally reliable.

3.9.2 Reliability of the Instrument

Reliability is the degree to which a research tool produces constant and dependable results (Andrade, 2018). Klenke (2016) propounded that reliability is the extent to which results are steady and consistent over subsequent studies and gives a precise picture of the total population and if the results of a study are repeated under a similar methodology and yields similar results, then the research instrument is considered to be reliable. This is realized through establishing the relationship between the obtained scores from various administrations of the scale.

If the relationship is high enough, the inference is that the scale produces dependable results and is therefore considered to be reliable. Internal consistency among the items of each construct were determined using Cronbach's alpha coefficient which ranges from 0 to 1.0. A value of 0.7 is seen as the acceptable value for Cronbach's alpha whereas values substantially lower indicate an unreliable scale (Sekaran & Bougie, 2016). The reliability of this questionnaire was therefore tested using the Cronbach's alpha coefficient with the aid of Statistical Package for Social Sciences (SPSS) software version 26.

3.10 Diagnostic Tests

3.10.1 Normality tests

Regression analysis can be improved by having a normally distributed data (Bryman, 2017). Assumption of normal distribution can be tested using plotting and if the plot gives a straight line and a positive slope, then there is linearity. This should be done on both independent and dependent variables. Normality tests are used to determine if a data set is well modelled by a normal distribution and to compute how likely it is for a random variable underlying the data set to be normally distributed (Bloomfield & Fisher, 2019).

Kolmogorov-Smirnov and Shapiro-Wilk tests for normality were applied for this study. The Shapiro-Wilk test is grounded on the correlation between data and the corresponding normal scores and provides better power than the Kolmogorov-

Smirnov test even after the Lilliefors correction (Khatun, 2021). Where the p-value was higher than 0.05, the data was taken to have normal distribution features but if the p-value was less than 0.05, the data was not normally distributed.

3.10.2 Multicollinearity

Multicollinearity, also called collinearity, is a phenomenon in which one predictor variable in a multiple regression model can be linearly predicted from the others with a substantial degree of accuracy. In this situation, the coefficient estimates of the multiple regressions may change erratically in response to small changes in the model or the data (Sekaran *et al.*, 2016). Multicollinearity occurs when independent variables in a regression model are correlated and this correlation is a problem because independent variables should be independent. If the degree of correlation between variables is high enough, it can cause problems when you fit the model and interpret the results. High degree of correlation between variables brings about the problem of multicollinearity (Kothari *et al.*, 2019) and hence independent variables should not correlate highly with one another (Bryman, 2017). In this study, tolerance was applied in testing multicollinearity. The tolerance provides measures of the effect caused by a single independent variable on other independent variables. Tolerance (T) = $1 - R^2$. If the value of T is less than 0.01 then it is certain that multicollinearity is present.

3.10.3 Heteroscedasticity

Heteroscedasticity is lack of constant error variance, which occurs when responses are not normally distributed or when the error term does not have constant variance (Bloomfield *et al.*, 2019). Heteroscedasticity refers to the assumption that the variability in scores for one continuous variable is roughly the same at all values for another continuous variable constitutes another assumption of multivariate analysis (Bloomfield *et al.*, 2019). Therefore, a graphical procedure with a scatter plot of residuals was used to test for heteroscedasticity in the independent variables.

The residuals and the variance of the residuals should be the same for all predicted scores and the scatter plot takes the shape of a rectangle; scores are concentrated in

the centre (about the 0 point) and distributed in a rectangular pattern (Saunders *et al.*, 2014). Therefore, scores were randomly scattered and in contrast, any systematic pattern or clustering of scores was considered a violation. Heteroscedasticity was as well tested using the Breuch-pagan test where the null hypothesis is that the error variances are all equal while the alternative hypothesis is that the error variances are a multiplicative function of one or more variables. The level of significance for the study was $\alpha=5\%$. For $p \geq 0.05$ we fail to reject the null hypothesis implying that, heteroscedasticity is evident, while for $p < 0.05$ the null hypothesis is rejected and concluded that there is a difference between variances of the population (Cooper & Schindler, 2016).

3.11 Data Analysis and Presentation

Before processing the responses, the completed questionnaires were cleaned and checked for completeness and consistency. According to Sekaran *et al.*, (2016), data analysis has three basic objectives; getting a feel of the data, testing the goodness of the data and testing the hypotheses developed for the research. Saunders *et al.*, (2014) postulated that data analysis is a practice in which raw data is ordered and organized so that useful information can be extracted from it. The study collected both quantitative and qualitative data.

Descriptive statistics such as mean, standard deviation, frequency and percentages was used in analysing quantitative data (Kothari *et al.*, 2019). On the other hand, qualitative data that was obtained from the open ended questions was analysed using content analysis which facilitates for quantification and analysis of the presence, meanings, and relationships of such certain words, themes, or concepts (Jacobs & Tschötschel, 2019). The data was presented using frequency, tables and bar graphs. To enhance data handling, Statistical Package for Social Sciences version 26 was used due to its ability to handle both small and voluminous data (Metsämuuronen, 2017). Inferential statistics were also carried out to establish the nature of the relationship between the study variables.

3.11.1 Operationalization and Measurement of Variables

The operationalization and measurement of the variables are contained in Table 3.3;

Table 3.3: Operationalization and Measurement of Variables

Variable	Indicators	Scale	Analysis of Data
Stakeholder Collaboration	Joint engagement	Ordinal	Mean, Simple regression
Capacity Building	Consultation	Ordinal	Standard deviation Simple regression analysis analysis, Mean
	Problem solving	Ordinal	
	Staff empowerment	Ordinal	
	Technical skills development	Ordinal	
Strategic Leadership	Advocacy skills development	Ordinal	Standard deviation
	Strategic decision making	Ordinal	Simple regression analysis
	Strategic direction	Ordinal	analysis, Mean,
Firm Resources	Strategic control	Ordinal	Standard deviation
	Financial resources	Ordinal	Simple regression analysis
	Technological resources	Ordinal	Mean,
Organizational Culture	Human capital resources	Ordinal	Standard deviation
	Artifacts	Ordinal	Simple regression analysis
	Espoused values	Ordinal	Mean,
Performance of SMS	Change management	Ordinal	Standard deviation
	Incident analysis	Interval	Mean, Standard Deviation
	Non-compliance occurrences	Interval	Multiple Regression
Accident rates	Interval		

3.11.2 Regression Model

To test the research hypotheses, regression analysis was used and it predicts the change in the dependent variable resulting from changes in the independent variables. Simple regression model of the form $Y = \beta_0 + \beta_i X_i$ was used where $i=1, 2, 3,$

4 represented each independent variable. The regression model belongs to group of models of the form $Y_n = \alpha + \beta_1 \cdot X_{1n} + \beta_2 \cdot X_{2n} + \dots + \beta_k \cdot X_{kn} + \varepsilon$ in which for N observations of Y are each a linear function of K different independent variables perturbed in each case by the random error term (Kothari *et al.*, 2019).

Single Variable

$$Y = \beta_0 + \beta_i X_i + \varepsilon \quad (i=1,2,3,4);$$

$$Y = \beta_0 + \beta_i X_i + \beta_m M + \varepsilon;$$

$$Y = \beta_0 + \beta_i X_i + \beta_m M + \beta_{mi} X_i M + \varepsilon$$

A multiple regression analysis was also used and it predicts the change in the dependent variable resulting from changes in the multiple independent variables

Multiple Variables

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_m M + \varepsilon$$

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_{1M} X_1 M + \beta_{2M} X_2 M + \beta_{3M} X_3 M + \beta_{4M} X_4 M + \varepsilon$$

Where; Y = Performance of Safety Management System

β_0 = Constant

β_i = Coefficient for X_i (i=1, 2,3,4)

β_m = Coefficient of Moderator

$\beta_i M$ = Coefficient of Interaction term

X_1 = Stakeholder collaboration

X_2 = Capacity building

X_3 = Strategic leadership

X_4 = Firm resources

M = Organizational culture (moderating variable)

ε = Error term

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents the data analysis, interpretations as well as the findings based on the study objectives, hypothesis and their discussions. The chapter presents the general information of the respondents and analysis of the dependent and the independent variables. Descriptive and inferential statistics have been used to analyse the data. The study employed different statistical techniques aided by SPSS version 26 to analyse the data. The data was summarized and presented using tables, pie charts and bar charts. This chapter also describes the diagnostic tests for regression model, testing of hypothesis, reliability and validity of the research instrument, presentation and interpretation of the findings. The main objective of the study was to determine the influence of strategic firm level dimensions on the performance of safety management system in the Aviation Industry in Kenya.

4.2 Response Rate

The study had a sample of all aviation service providers in Kenya. All selected respondents were issued with questionnaires for data collection, but the researcher was able to receive back only 123 questionnaires. The returned questionnaires formed a response rate of 93.2% as indicated in Table 4.1. Mugenda *et al.*, (2013) postulated that a response rate of 50% and above is good for analysis and reporting, that of 60% is sufficient while 70% and above is excellent. Therefore, since the response rate was above 70% it was considered to be excellent and was used for further analysis and reporting.

Table 4.1: Response Rate

Questionnaire	Frequency	Percentage
Returned	123	93.2
Not returned	9	6.8
Total	132	100

4.3 Demographic Information

The study sought to determine the distribution of the respondents selected for the study based on their demographic information. The study specifically sought to establish the age, level of education, the organization they work for and their working experience.

4.3.1 Age of Respondents

The study sought to establish the age distribution of the sampled respondents for the study and the findings were as presented in Figure 4.1;

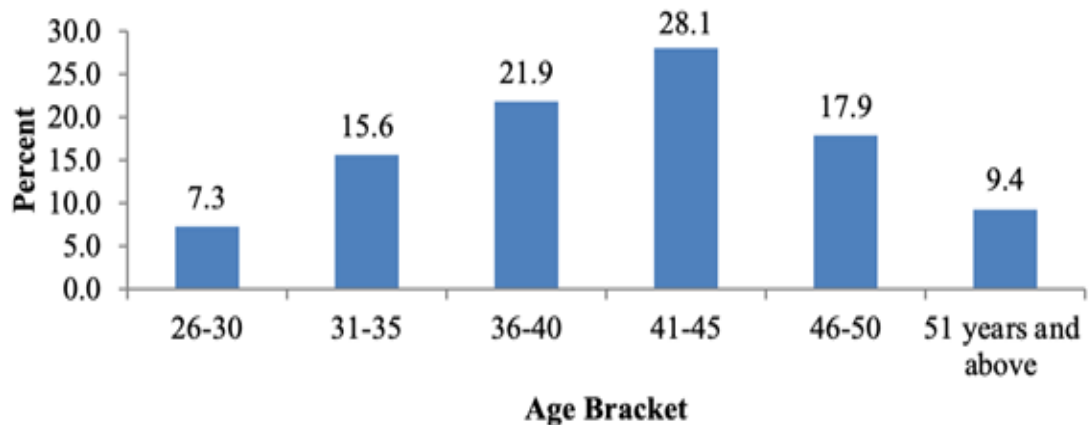


Figure 4.1: Age of Respondents

From the findings, 28.1% of the respondents were aged 41 to 45 years, 21.9% were aged 36-40 years, 17.9% were aged 46-50 years, 15.6% were aged 31-35 years, 9.4% were aged 51 years and above while 7.3% were aged between 26 and 30 years. These findings show that heads of safety in aviation service providers in Kenya are of diverse ages but most of them constituting 28.1% were aged between 41 and 45 years. The findings indicated that most of the respondents were the older generation and this could be explained by the fact that aviation is a regulatory field and most of the managers have attained a certain age bracket to qualify for a specific position in hierarchy. Since older and younger generation managers interact effectively in today's dynamic aviation industry, strengths and weaknesses of each cohort must be understood to attain commendable performance.

4.3.2 Respondents' Level of Education

The study sought to determine the level of education of the selected respondents. The findings obtained were as presented in Figure 4.2;

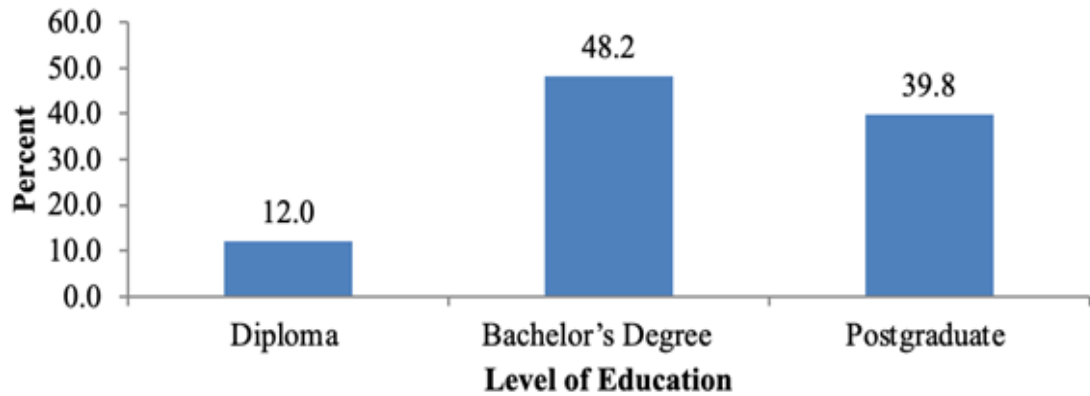


Figure 4.2: Respondents' Level of Education

The findings in Figure 4.2 point out that 48.2% of the respondents had bachelor's degree as their highest level of education, 39.8% had postgraduate and 12% had diploma. These findings show that the selected respondents had varied level of education. Most (48.2%) had bachelor's degree. The findings also show that the respondents had attained some level of education that placed them in the position they held in the organization. Furthermore, the respondents were in a position to understand the questionnaire and provide the information needed for this study. Logical deduction from the findings, therefore, is that employees of the aviation service providers in Kenya have good levels of education which includes both post graduate cadres. Daft (2018) asserted that the level of education greatly impacts on management, postulating the need to have employees with high qualifications at all levels of management.

4.3.3 Respondents' Work Organization

The study sought to establish the organizations in which the selected respondents worked, which informed the researcher on which organizations responded to the questionnaire. The findings obtained were as presented in Figure 4.3.

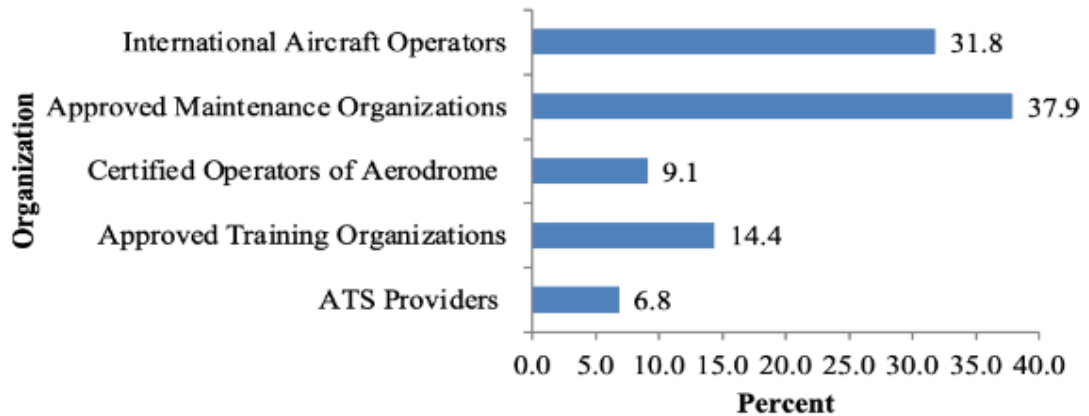


Figure 4.3: Respondents' Work Organization

Results presented in Figure 4.3 show that the selected respondents were from different aviation service organizations. It is seen that 37.9% were from approved maintenance organizations, 31.8% were from international aircraft operators, 14.4% were from approved training organizations, 9.1% were selected from certified aerodrome operator, and 6.8% were from air traffic service providers. These findings show that the selected sample was representative and therefore appropriate for collecting data to determine the strategic firm level dimensions and the performance of safety management system in the Aviation Industry in Kenya.

4.3.4 Respondents' Work Experience

The study sought to establish the experience of the selected respondents and the findings obtained were as presented in Figure 4.4;



Figure 4.4: Respondents' Work Experience

The findings show that the selected respondents had diverse years of experience in their work places. The findings showed that 34.1% of the respondents had experience of 5-7 years, 22% had experience of 8-10 years, 17.1% had experience of 2-4 years, 12.2% had 11-13 years' experience, 7.3% had experience of above 16 years, 4.9% experience of 14-16 years, and 2.4% had experience of less than two years. These results show that majority of the respondents had worked long enough and were therefore in a position to provide useful information on strategic firm level dimensions and performance of safety management system in their organizations. Thompson and Strickland (2007) reiterated on the need to retain employees so as to gain sufficient expertise for implementation to be effective and thus the findings corroborate the referenced work.

4.4 Reliability and Validity of the Research Instrument

4.4.1 Validity of Research Instrument

Validity is the extent to which a test measures that which it is supposed to measure and it is the degree to which the results obtained from an analysis of the data actually represents the phenomenon under study (Mugenda *et al.*, 2013). Face validity was done through relevant literature review and peer review, which included use of accepted methods and standards that were espoused in other relevant studies. Construct validity evaluates whether a measurement tool measures the concept or

construct it was designed to measure, while content validity assesses the inclusivity or representation of all aspects of the construct (Mugenda *et al.*, 2013).

Content validity involves assessing individual questions on a test and asking experts whether each one targets characteristics that the instrument is designed to cover. To ensure that content and construct validity were realized, the preliminary questionnaire was presented to aviation safety professionals and university lecturers to valid the research instrument. Additionally, survey items were extracted from existing theory in the subject area for purposes of being replicated and the study also used tested constructs from prior research instruments where available.

4.4.2 Reliability Analysis

Cronbach’s coefficient alpha was used to determine the internal reliability of the research instrument used in this study. Conventionally, the alpha values range from 0 to 1.0 whereby while 1.0 indicates perfect reliability, the value 0.70 is considered to be the lower level of acceptability (Sekaran *et al.*, 2016). The reliability values for each of the variables are presented in Table 4.2 where it is evident that Cronbach’s alpha values for each of the study variables were well above the lower limit of acceptability of 0.70. The findings indicated that stakeholder collaboration had a coefficient of 0.780, capacity building had a coefficient of 0.827, strategic leadership had a coefficient of 0.767, firm resources had a coefficient of 0.823, organizational culture had a coefficient of 0.757 and performance of safety management system had a coefficient of 0.806. The results therefore showed that the questionnaire used in this study had a high level of reliability.

Table 4.2: Reliability Statistics

Variable	Cronbach’s Alpha
Stakeholder collaboration	0.780
Capacity building	0.827
Strategic leadership	0.767
Firm resources	0.773
Organizational culture	0.757
Performance of SMS	0.806

4.5 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 = Neither Agree nor Disagree; 2 = Disagree; 1 = Strongly Disagree. The results provided were analysed and the findings interpreted using means and standard deviation values.

A standard deviation value less than two was considered to be low and suggested that respondents' opinion was in agreement with the mean, but a large standard deviation (>2) suggested that respondents' individual opinion had differing opinions with the mean. For mean, a value of 1-1.8 was strongly disagree, 1.8-2.6 disagree, 2.6-3.4 neutral, 3.4-4.2 agree and 4.2-5 strongly agree.

4.5.1 Stakeholder Collaboration and Performance Safety Management System

Respondents gave their responses on statements relating with stakeholder collaboration and the results obtained were as presented in Table 4.3;

Table 4.3: Stakeholder Collaboration

Statement	SD %	D %	N %	A %	SA %	Mean	Std. Dev.
Joint engagement							
Our organization embraces joint engagement with stakeholders in the aviation sector	4.8	1.6	4.8	69.3	19.5	3.967	1.169
Our organization has internal elaborate means of joint engagement on SMS issues	3.3	3.3	8.1	73.1	12.2	3.878	1.224
Shareholder's consultations							
Our organization holds SMS consultation forums with other aviation service providers	0.8	4.2	6.5	73.9	14.6	3.976	1.243
Our organization has devised means of sharing and tracking information regarding SMS with other aviation service providers	1.6	4.8	8.9	77.2	7.3	3.837	1.305
Collaborative problem solving							
Our organization always embraces collaborative problem solving with stakeholders in the aviation sector	5.7	3.3	9.8	70.7	10.6	3.772	1.176
Our organization has internal elaborate means of problem solving on SMS issues	4.1	4.9	7.3	64.2	19.5	3.902	1.068

n = 123 (SD = Strongly Disagree; D = Disagree; N = Neither Agree nor Disagree; A = Agree; SA = Strongly Agree) *Mean = (Strongly Disagree = 1 – 1.8; Disagree = 1.8 – 2.6; Neither Agree nor Disagree = 2.6 – 3.4; Agree = 3.4 - 4.2; Strongly Agree = 4.2 – 5.0)

Results in Table 4.3 show that the standard deviation values are small (<2) which suggests that the respondents did not have differing opinions. The findings further show that the respondents agreed that their organizations held safety management system consultation forums with other aviation service providers (M=3.976, SD=1.243).

The study findings concurred with Barney (2018) who observed that stakeholder collaboration in the strategic planning process needs to be guided by particular guidelines and timelines, which specifies the roles and responsibilities of every major stakeholder. This ensures that the process of stakeholder involvement in the strategic

planning process is not unnecessarily lengthy without achieving any meaningful results. It also agrees with Harriet *et al.*, (2014) that deeper public relations grounded on reliable opportunities for meetings and concern sharing among stakeholders is more likely to build trustworthiness and confidence to facilitate execution of strategies and review of processes.

Respondents were of the opinion that there were other stakeholder collaboration issues that could determine performance of safety management system in the Aviation Industry in Kenya. They explained that stakeholders are not easy to manage because of their complicated relationships with organizations. Stakeholders are individuals and therefore their interests and expectations differ. In order to ensure that the activities of the organization were effectively executed, the contribution of each stakeholder should be considered.

Understanding stakeholders' interests and conducting proper consultations and engagement would ensure that the decisions reached were in line with their key interests and also consistent with their needs and therefore ensure that they were of high standards. They would also help in solving problems that might arise in implementation. The involvement of key players is critical to the process of safety management implementation and operation.

4.5.2 Capacity Building and Performance of Safety Management System

Respondents gave their opinion on various statements relating to capacity building and the findings obtained were as presented in Table 4.4;

Table 4.4: Capacity Building

Statement	SD %	D %	N %	A %	SA %	Mean	Std. Dev.
Staff empowerment Our organization supports the practice of empowering employees to enhance smooth implementation of safety management systems.	1.6	2.4	2.4	85.4	8.1	3.959	1.475
Management assists employees with resources to discharge their duties successfully.	2.4	2.4	5.7	74.8	14.6	3.967	1.262
Technical skills development The SMS staff in our organisation possess prerequisite technical skills related to conduct SMS activities.	2.4	4.9	2.4	78.9	11.4	3.919	1.343
Our organization has a database of technical skills gaps geared towards achieving performance of SMS in our organization.	2.4	2.4	8.9	78	8.1	3.870	1.322
Advocacy skills development The SMS staff in our organisation possess prerequisite advocacy skills related to SMS strategies.	4.9	1.6	10.6	72.4	10.6	3.821	1.208
The staff in our organization are sensitized on SMS values, policies and strategies.	4.1	5.7	13	65.8	11.4	3.748	1.075

n = 123 (SD = Strongly Disagree; D = Disagree; N = Neither Agree nor Disagree; A = Agree; SA = Strongly Agree) *Mean = (Strongly Disagree = 1 – 1.8; Disagree = 1.8 – 2.6; Neither Agree nor Disagree = 2.6 – 3.4; Agree = 3.4 - 4.2; Strongly Agree = 4.2 – 5.0)

Results presented in Table 4.4 show that all the statements had small standard deviation values (less than 2) suggesting that respondents had converging opinions on the statements with the mean.

The study findings agree with Brown *et al.*, (2020) who affirmed that capacity building actually improved the ability of organizations to perform better in a competitive environment. The study posited that staff capacity building was an

essential determinant of performance of organizations and that organizations may improve their abilities for inventions by building the capacities of their employees. The study also concurs with the Association of African Aviation Training Organizations (AATO) Consultative Assembly held in Niger in 2013. The Assembly, postulated that harmonization of aviation training among African States would offer an opportunity not only to increase the availability of affordable and quality training throughout the continent, but also to promote compatibility among operators and safety oversight organizations.

It would also improve efficiency and effectiveness and reduce the economic burden on states and aviation service providers who have to comply with different requirements. However, the findings are in contrast with those of Bert (2021) whose study only identified coaching and mentorship as the key capacity building elements and alluded that employees with higher capacities were more suitable in developing the capacity of colleagues through the two elements. Motivated and empowered employees have the capacity and flexibility crucial in enhancing the overall performance of an organization. Therefore, empowering employees through greater autonomy was directly linked to increased employee motivation and experts agreed that employees who had more control over how, when, and where they did their job actually worked harder and found their work more engaging.

Employees are a key determinant of an organization's success and are often the face of the organization to customers and stakeholders hence maintaining a well-trained, well-qualified workforce is critical. Apt management practices could help managers to get the best from their employees through analysis of team dynamics and employee work performance challenges; individual coaching and consultation with group and individual performance challenges; and creation of clear and succinct position descriptions, effective hiring and performance discussions.

4.5.3 Strategic Leadership and Performance of Safety Management System

Respondents gave their responses on statements relating with strategic leadership. The results obtained were as presented in Table 4.5;

Table 4.5: Strategic Leadership

Statement	SD %	D %	N %	A %	SA %	Mean	Std. Dev.
Strategic Decision making							
Our organization encourages employees to make decisions with minimal formal monitoring.	3.3	1.6	3.3	73.9	17.9	4.016	1.259
Our organization has a clearly defined decision-making policy.	1.6	1.6	3.3	85.4	8.1	3.967	1.474
Our top management makes timely decisions.	1.6	0	1.6	94.3	2.4	3.959	1.667
Strategic direction							
Our organization clearly defines its mission to achieve high performance of SMS.	4.1	1.6	5.7	83.7	4.9	3.837	1.446
Our top management is committed to build trusting relationship to move employees to a desired direction.	4.9	4.9	8.9	68.3	13	3.797	1.128
Strategic Control							
Our top management has developed a series of actions to manage risks and safety management issues.	2.4	4.1	9.4	56.5	27.6	4.008	0.945
Our top management tracks all SMS strategies to their implementation.	3.3	4.1	9.8	63.4	19.5	3.919	1.050
Our top management adjusts and improves SMS strategies where necessary.	4.1	5.7	8.1	69.9	12.2	3.805	1.159

n = 123 (SD = Strongly Disagree; D = Disagree; N = Neither Agree nor Disagree; A = Agree; SA = Strongly Agree) *Mean = (Strongly Disagree = 1 – 1.8; Disagree = 1.8 – 2.6; Neither Agree nor Disagree = 2.6 – 3.4; Agree = 3.4 - 4.2; Strongly Agree = 4.2 – 5.0)

Results in Table 4.5 show that all statements had standard deviations of less than two, which is a low standard deviation suggesting that the respondents had converging opinions with the mean score. The results specifically show that the respondents agreed that their organizations encouraged employees to make decisions with minimal formal monitoring; top management had developed a series of actions to manage risks and safety management issues; organizations had a clearly defined decision-making policy; top management made timely decisions; top management tracked all safety management system strategies for their implementation; their

organizations clearly defined their mission to achieve high performance of safety management system . Top management adjusted and improved safety management system strategies where necessary; and their top management was committed to build trusting relationship to move employees to a desired direction.

The findings concur with those of Jaleha *et al.*, (2018) who indicated that strategic leadership had a positive and significant influence on organizational performance measured in terms of earnings per share and return on assets. Toubba *et al.*, (2015) indicated that even though employees were moderately involved in strategic leadership, this had a positive influence on organizational performance in the oil and gas industry. The findings were in contrast with those of Mwangi and Kisimbi (2020) who found that strategic leadership was not the only variable responsible for lack of quality requirements in the implementation of safety projects at airports as there was the need to involve the end users at conception.

The respondents indicated that they included purpose and vision, determination of strategic direction, exploitation and maintenance of core competencies, development of human capital, emphasis on ethical practices and establishment of strategic control. Further, strategic leaders acted as a resource to an organization as they played a major role in the achievement of a competitive advantage and attainment of strategic control.

4.5.4 Firm Resources and Performance of Safety Management System

Respondents gave their opinion on various statements relating with firm resources and the findings obtained were as presented in Table 4.6;

Table 4.6: Firm Resources

Statement	SD %	D %	N %	A %	SA %	Mean	Std. Dev.
Financial resources							
Our organization has sufficient allocation of financial resources during budgeting process for SMS activities	3.3	5.7	8.1	73.9	8.9	3.797	1.240
The SMS department is consulted and involved in the determination of the budgetary allocation of financial resources for SMS activities	1.6	4.1	8.1	67.5	18.7	3.976	1.125
Technological resources							
Our organisation has adequate technological facilities and working tools to support SMS activities	1.6	1.6	1.6	88.6	5.7	3.927	1.546
Our organization has elaborate knowledge application technologies within the SMS department	2.4	4.9	13.8	74.8	4.1	3.732	1.264
Human capital resources							
Our organization has qualified personnel to execute SMS tasks as mandated.	3.3	3.3	4.9	82.9	5.6	3.846	1.428
Our SMS department is sufficiently staffed to execute its SMS mandate	3.2	4.1	9.8	69.9	13	3.854	1.158

n = 123 (SD = Strongly Disagree; D = Disagree; N = Neither Agree nor Disagree; A = Agree; SA = Strongly Agree) *Mean = (Strongly Disagree = 1 – 1.8; Disagree = 1.8 – 2.6; Neither Agree nor Disagree = 2.6 – 3.4; Agree = 3.4 - 4.2; Strongly Agree = 4.2 – 5.0)

The results presented in Table 4.6 show that the standard deviation for each of the statements was less than two being an indication that respondents' responses were in agreement with the mean score. The study findings agreed with Shillingi (2022) that organizations with a employees loyalty and available resources were successful in incorporating and stimulating teamwork spirit, togetherness, and willingness to share and implement organizational goals. The findings are also in line with Nkosi (2015) that lack of adequate financial resources was a significant challenge in strategy

implementation. Further the study concurs with Sorooshian *et al.*, (2018) who observed that the significance of human resource in strategy implementation is based on the idea that change management can be an essential source of sustained competitive advantage of a firm. Therefore, a strong human resource component is required for proper implementation of strategies and better performance in an organization.

The findings were in contrast with those of Mumbua *et al.*, (2015) who found that there was no proper alignment of resources with the strategic plans in their organization of study. The study also contrasted with Anene *et al.*, (2019) who established that most of the successful organizations had succeeded not solely because of their financial resources but because they were able to strategically and efficiently use the human resources at their disposal. Respondents also gave ways firm level resources determined performance of safety management system in the Aviation Industry in Kenya.

Each firm developed competencies from the firm resources to gain unique competitive advantage over their rivals. Therefore, assets, organizational processes, capabilities, knowledge, information, and other capacities controlled by an organization permitted the development and implementation of effective strategies. They explained that companies having resources that were rare and could not be imitated or substituted within the industry had a better position of exploiting opportunities and attaining competitive advantage in the market. Therefore, if the aviation company lacked appropriate resources in operation of safety management system, it would be challenging to achieve the required safety management system performance targets.

4.5.5 Organizational Culture and Performance of Safety Management System

The study respondents gave their level of agreement with various statements that relate with organizational culture as presented in Table 4.7;

Table 4.7: Organizational Culture

Statement	SD %	D %	N %	A %	SA %	Mean	Std. Dev.
Team work							
Our organization regularly conducts team building activities	2.4	1.6	7.3	73.2	15.4	3.976	1.230
Our organization encourages cross functional interactions	2.4	2.4	4.9	81.3	8.9	3.919	1.390
Our managers develop and create a spirit of unity, innovation and trust in the organization	4.1	4.9	7.3	72.4	11.4	3.821	1.208
Employees Loyalty							
Managers encourage positive values in our organization	5.7	2.4	8.9	56.1	26.8	3.959	0.972
Our culture encourages employee's loyalty and sense of belonging	1.7	4.9	9.6	82.2	1.6	3.724	1.321
Change management							
Our organization provides prior awareness on new strategies	3.3	7.3	7.3	61.8	20.3	3.886	1.024
Our organisation encourages certain degree of flexibility of employees in executing change processes	1.6	4.1	9.4	72.7	12.2	3.878	1.172
Our organization has change management policies that are known to staff.	4.9	5.7	9.2	69.7	10.6	3.724	1.092

n = 123 (SD = Strongly Disagree; D = Disagree; N = Neither Agree nor Disagree; A = Agree; SA = Strongly Agree) *Mean = (Strongly Disagree = 1 – 1.8; Disagree = 1.8 – 2.6; Neither Agree nor Disagree = 2.6 – 3.4; Agree = 3.4 - 4.2; Strongly Agree = 4.2 – 5.0)

From the findings in Table 4.7, all the standard deviation values for each statement were below 2, an indication that respondents' responses were in agreement with the mean score. The findings specifically show that the respondents agreed that their organization regularly conducted team building activities; managers encouraged positive values in the organizations; the organization encouraged cross-functional interactions; the managers developed and created a spirit of unity, trust and innovation in the organizations, their organizations provided prior awareness on new strategies, their organizations encouraged certain degree of flexibility for employees

in executing change processes; the organizations had change management policies that were known to staff; and their culture encouraged employees' loyalty and sense of belonging.

The study agreed with Zheng *et al.*, (2015) that organizational culture was arguably one of the key organizational assets that are associated with organizational effectiveness by playing a crucial role in determining the effectiveness of organizations and stimulating or engendering many other activities that bring about corporate success. However, the findings contrasted with those of Schein (2019) who found that an organization's culture has little effect to its performance.

The culture of any organization will affect performance because it influences the nature of relationships between clients and stakeholders. Culture also determined the level of employee commitment and their level of efficiency. Also, when culture in an organization is considered to be safe then employees become more willing to report safety events. Flexible approaches in policy crafting influences strategy implementation as opposed to more procedural views (Rajapathirana & Hui, 2018). In addition, organizational culture plays a crucial role in determining the effectiveness of organizations and stimulating or engendering many other activities that bring about corporate success.

4.5.6 Performance of Safety Management System

Respondents gave the levels to which they agreed or disagreed with various statements on performance of safety management system. Table 4.8 presents the findings obtained;

Table 4.8: Performance of Safety Management System

Statement	SD %	D %	N %	A %	SA %	Mean	Std. Dev.
Our organization meets operational regulatory requirements by aviation sector regulators.	1.6	4.9	8.1	69.1	17.1	3.961	1.149
Technologies adopted in our organization for safety management system are up to par.	3.3	4.9	3.3	70.7	17.9	3.955	1.199
Risk management pertaining to safety management system is effective in our organization.	3.3	4.9	1.6	78.9	11.4	3.902	1.345
Frequency of accidents is always monitored by our organization.	4.9	1.6	9.8	72.4	11.4	3.836	1.207
Emergency response planning is always considered to be an important tenet in our organization.	4.0	3.3	7.3	74.0	11.4	3.836	1.234

n = 123 (SD = Strongly Disagree; D = Disagree; N = Neither Agree nor Disagree; A = Agree; SA = Strongly Agree) *Mean = (Strongly Disagree = 1 – 1.8; Disagree = 1.8 – 2.6; Neither Agree nor Disagree = 2.6 – 3.4; Agree = 3.4 - 4.2; Strongly Agree = 4.2 – 5.0)

Results in Table 4.8 show that the standard deviation values for each of the statement are less than two; this suggests that respondents' responses did not differ from the mean. The findings further show that the respondents agreed that operational regulations measure the performance of safety management system in the organization (M=3.961, SD=1.149), adoption of current technologies is a metric of the performance of safety management system in the organization (M=3.955, SD=1.199).

Effective risk management is a subset of the performance of safety management system in the organization (M=3.902, SD=1.345), frequency of accidents determines the performance of safety management system in the organization (M=3.836, SD=1.207) and emergency response planning has a bearing on safety management

system in the organization ($M=3.836$, $SD=1.234$). The study findings agree with Lares-Mankki (2014) who investigated strategy implementation bottlenecks and affirms that failure in implementation of strategic plans was due to poor and inadequate information sharing with uncertain responsibility and accountability.

The study collected secondary data on the number of incidents occurrence in the Aviation Industry in Kenya from 2009 to 2019. The findings obtained were as presented in Figure 4.5;

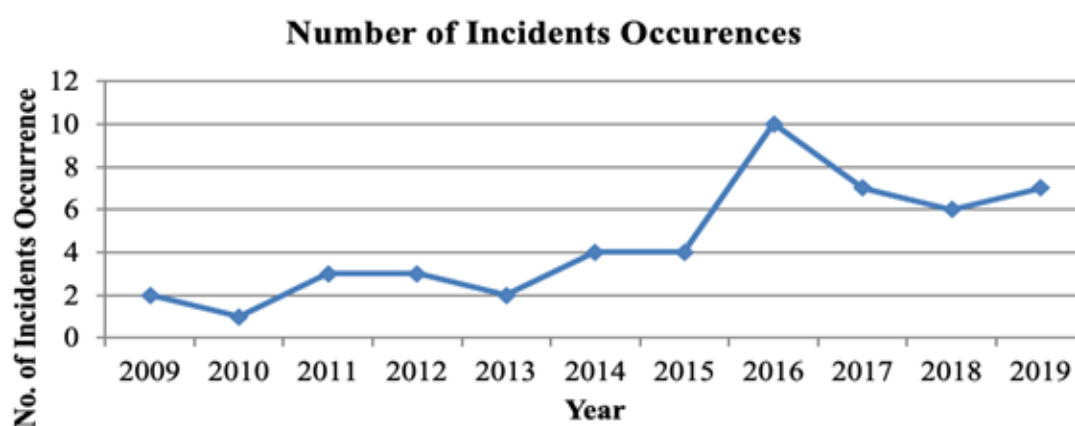


Figure 4.5: Trend in Number of Aviation Incidents Occurrences

From the findings, it can be observed that the Aviation Industry in Kenya has recorded several incidents over the past ten years. There have been fluctuating numbers of aviation incidents recorded and between 2015 and 2016, there was a significant increase in aviation incidents recorded, with 2016 recording the highest number of incidents (10), while 2010 recorded the least incidents (1). Comparing 2009 which recorded two (2) aviation incidents and 2019 which recorded seven (7) aviation incidents it is evident that there is a rising trajectory. These findings show that the Aviation Industry is yet to succeed in eliminating issues of aviation incidents.

Arendt and Adamski (2017) indicated that the primary aim of safety management in an organization is to intervene in the causation elements that result into accidents and incidents. This therefore suggests that the Aviation Industry in Kenya has not adopted a safety management system that is effective. The study findings agree with

Arendt and Adamski (2017) that organizational safety management system should incorporate processes and procedures for hazard identification and impact assessment of the associated risks through capacity building activities. Through adoption of a safety culture, review of the residual risk against risk acceptance criteria and continuous monitoring and assessment of safety risks.

The study also collected secondary data on the number of accident occurrences in the Aviation Industry in Kenya from the year 2009 to 2019 and was presented in Figure 4.6;

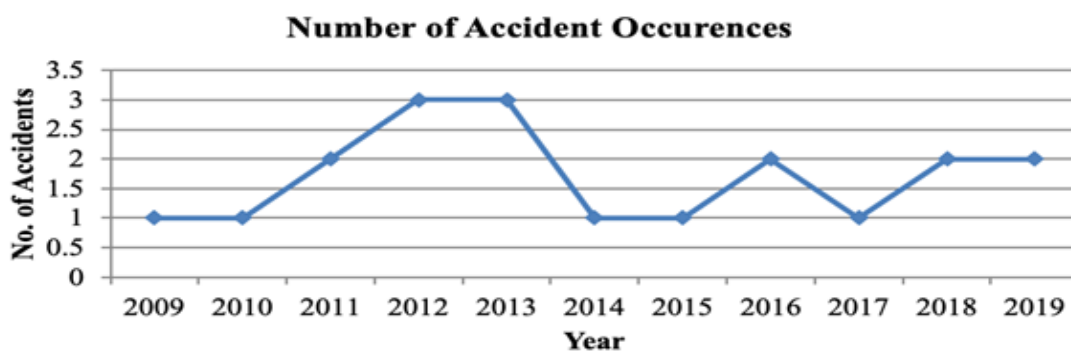


Figure 4.6: Trend in Number of Accident Occurrences

Results in figure 4.7 show that there have been a number of accidents recorded in the Aviation Industry in Kenya over the past decade. The results evidently depict a scenario of aviation accidents trend. The number of aviation accidents recorded in 2012 and 2013 were the highest at three (3). Evidently, every single year from 2009 to 2019 recorded an accident. These findings show that the industry has not managed to stop the occurrence of accidents as they have significantly occurred over the years. This suggests that the performance of safety management system in the Aviation Industry in Kenya is not doing very well. The findings agree with Dekker (2018) who explained that incidents and accidents occur as a product of a series of events which when reported and actioned on minimize the chances of occurring.

The study gathered secondary data on the number of non-compliance occurrences and was collected from the year 2009 to 2019 and the results obtained were as presented in Figure 4.7;



Figure 4.7: Trend in Number of Non-Compliance Occurrences

The outlay in Figure 4.8 depicts that non-compliance occurrences in the Aviation Industry in Kenya usually fluctuated and from the non-compliance occurrences, it was found that on average the number of non-compliance occurrences recorded between 2009 and 2019 were on the rise. Year 2010 recorded the least numbers at two (2) while 2016 recorded the highest at twelve (12). These findings therefore suggest that the Aviation Industry in Kenya is yet to achieve success in reducing the rates of non-compliance occurrences in spite the introduction of safety management system strategy as envisaged by the International Civil Aviation Organisation.

The findings concur with Sun and Turkan (2020) who observed that safety management system framework conform to the Plan-Do-Check-Act cycle because it ensures process control and continuous safety improvement. This calls for intensified stakeholder collaborations and increased firm resources to counter the challenges. Similarly, this study concurs with Mwikya and Angeline (2018) who studied the effects of reporting safety concerns on aviation safety in the general Aviation Industry a case study of Wilson Airport Kenya. They found that an improvement in the level of implementation of reporting systems and organizational commitment on reporting systems had a bearing on non-compliance occurrences, and there was further need for improvement in aviation safety non-compliance occurrences. The results of the study have valuable implications for policy makers in the general Aviation Industry.

4.6 Diagnostic Tests

Having reviewed the independent variables through descriptive statistical analysis, the study sought to establish the influence of the independent variables on the dependent variable. This meant a bivariate nature of the relationship between the variables had to be established and therefore a correlation analysis was used to evaluate the strength and direction of the influence among the variables and linear regression used to determine the nature of the relationships. The researcher applied inferential statistics to test the study hypotheses then reject or fail to reject the null hypotheses. At 5% level of significance, the null hypothesis was rejected if the p-value was < 0.05 . The assumptions that were tested include normality, multicollinearity and heteroscedasticity.

4.6.1 Normality tests

Testing for normality is necessary because most of these statistical procedures are premised on normal distribution with the assumption that the population from which the samples are taken is normally distributed. Kolmogorov-Smirnov (K-S) test is the most popular test for normality, but it ought to be used with caution owing to its low power and therefore it is recommended that it should be augmented by tests such as Shapiro-Wilk which is most suitable for small sample sizes (<50) but can also be used for sample sizes as large as 2000. This study therefore based its interpretation of normality of data using the Shapiro-Wilk test.

Table 4.9: Test of Normality

	Kolmogorov-mirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Stakeholder Collaboration	.236	21	.000	.608	21	.000
Capacity Building	.212	21	.000	.621	21	.002
Strategic Leadership	.246	21	.000	.628	21	.012
Firm Resources	.222	21	.000	.626	21	.006
Organizational culture	.263	21	.000	.620	21	.001
Performance of SMS	.257	21	.000	.615	21	.000

a. Lilliefors Significance Correction

The Shapiro-Wilk test is a statistical test used for review if a continuous variable follows normal distribution of data. The null hypothesis (H_0) states that the variable is normally distributed, and the alternative hypothesis (H_1) states that the variable is not normally distributed. If $p \leq 0.05$: then the null hypothesis can be rejected meaning the variable is not normally distributed, however, if $p > 0.05$: then the null hypothesis cannot be rejected meaning the variable may be normally distributed.

In this pilot study, the independent variables, moderating and dependent variables had p-values of less than 0.05. These were stakeholder collaboration ($W = .608$, p-value = .000), capacity building ($W = .621$, p-value = .002), strategic leadership ($W = .628$, p-value = .012), firm resources ($W = .626$, p-value = .006), organizational culture ($W = .620$, p-value = .001) and performance of safety management system ($W = .615$, p-value = .000) as shown in Table 4.9. The findings show that the variables departed from normality. However, Halim, Ismail and Das (2021) indicated that researchers can still use parametric procedures even when the data are not normally distributed.

4.6.2 Multicollinearity

Multicollinearity occurs when the independent variables are correlated with other independent variables. In this study, variance inflation factor (VIF) was applied in testing multicollinearity. If VIF was >5 but less than 10, this indicated moderate presence of multicollinearity. If $VIF \geq 10$, this indicates high multicollinearity (Kothari *et al.*, 2019).

Table 4.10: Multicollinearity Test Statistics

	Collinearity Statistics	
	Tolerance	VIF
Stakeholder collaboration	.930	1.075
Capacity building	.829	1.207
Strategic leadership	.970	1.031
Firm resources	.803	1.245
Organizational culture	.892	1.121

From the findings presented in Table 4.10, the VIF values for all the variables were less than 10, a clear indication that multicollinearity did not exist between the study variables. The variables were found not to have high correlations among themselves and therefore data was suitable for regression analysis.

4.6.2 Heteroscedasticity

Kline (2015) stated that heteroscedasticity refers to an instance where variable variability is unequal over ranges of values for the variable predicting. If the error term differs at different independent values, then heteroscedasticity is said to exist. Heteroscedasticity occurs when the error terms are not scattered evenly around a horizontal line. The study performed Breusch-Pagan test; where the null hypothesis is that there are equal variances of the error terms. If the value of Prob > Chi-square exceeds 0.05, it suggests existence of homoscedasticity. The null hypothesis is rejected if the p-value obtained is less than the selected level of significance. Table 4.11 presents the findings;

Table 4.11: Breusch-Pagan Test for Heteroscedasticity

H ₀ : Constant variance			
Statistics	Df	Stat value	p-value
Chi-squared	5	2.1578	0.768

The findings presented in Table 4.11 indicate $\text{Chi}^2 = 2.1578$ with a p-value = 0.768 which is greater than 0.05 which suggests that the distribution is not significant. We therefore reject the null hypothesis and conclude that there is no heteroscedasticity.

4.7 Inferential Statistics

Relationship between study variables was determined by computing inferential statistics. The study computed correlation and regression analysis.

4.7.1 Correlation Analysis

The study computed correlation analysis to test the relationship between the dependent and the independent variables. The Pearson R correlation was used to measure strength and the direction of linear relationship between variables. The association was considered to be small if $\pm 0.1 < r < \pm 0.29$; medium if $\pm 0.3 < r < \pm 0.49$; and strong if $r > \pm 0.5$.

Table 4.12: Correlation Analysis for Study Variables

		Y	X ₁	X ₂	X ₃	X ₄	M
Y	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	123					
X ₁	Pearson Correlation	.671					
	Sig. (2-tailed)	.002					
	N	123	123				
X ₂	Pearson Correlation	.664	.208	1			
	Sig. (2-tailed)	.003	.051				
	N	123	123	123			
X ₃	Pearson Correlation	.710	-.031	.116	1		
	Sig. (2-tailed)	.000	.734	.201			
	N	123	123	123	123		
X ₄	Pearson Correlation	.688	.023	.350	.115	1	
	Sig. (2-tailed)	.001	.796	.070	.206		
	N	123	123	123	123	123	
M	Pearson Correlation	.893	.302	.265	.189	.238	1
	Sig. (2-tailed)	.002	.066	.015	.001	.002	
	N	123	123	123	123	123	123

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Key: Y = Performance of SMS; X₁ = Stakeholder collaboration; X₂ = Capacity building; X₃ = Strategic leadership; X₄ = Firm resources M = Organizational culture

From the findings, the relationships 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 stakeholder collaboration and performance of safety management system were strongly and positively related ($r = 0.671$, $p = 0.002$); capacity building also had a strong positive and significant relationship with performance of safety management system ($r = 0.664$, $p = 0.003$); strategic leadership had a strong positive and significant relationship with performance of safety management system ($r = 0.710$, $p = 0.000$), and finally firm resources had a strong positive and significant relationship with performance of safety management system ($r = 0.688$, $p = 0.001$).

These findings show that there is significant relationship between the dependent and independent variables meaning strategic firm level dimensions have significant influence on performance of safety management system in the Aviation Industry in Kenya. The study findings agree with Wakiriba, Ngahu and Wagoki (2014) that the success of safety management system in Kenya lies in how organizations balance the scarce resources between provision of services and protection in conformity with international standards and that the challenge facing full implementation of safety management system range from inadequate resources to unsupportive organizational structures.

4.7.2 Simple Regression Analysis

Simple linear regression is a statistical method that summarizes and studies relationships between two continuous and quantitative variables, where one variable, denoted x , is regarded as the predictor, explanatory, or independent variable and the other variable, denoted y , is regarded as the response, outcome, or dependent variable

(Aggarwal & Ranganathan, 2017). This form of regression allowed the researcher to analyse a single dependent variable Y and the K other variables that are suspected to influence Y . Simple regression model of the form $Y = \beta_0 + \beta_i X_i$ was adopted.

4.7.2.1 Stakeholder Collaboration and Performance of Safety Management System

The first objective of the study was to assess the influence of stakeholder collaboration on performance of safety management system in the Aviation Industry in Kenya. In order to answer this objective, the study regressed stakeholder collaboration with performance of safety management system. The findings were as presented in Table 4.13;

Table 4.13: Simple Regression for Stakeholder Collaboration

Model Summary

Model	R	R Squared	Adjusted Squared	RStd. Error of the Estimate
1	.671 ^a	.450	.446	5.02483

a. Predictors: (Constant), Stakeholder Collaboration

ANOVA^a

Model		Sum Squares	ofdf	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), Stakeholder Collaboration

Coefficients^a

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

a. Dependent Variable: Performance of SMS

From the findings presented in Table 4.13, the value of R^2 was 0.450 which implies that 45% of variation in performance of safety management system can be attributed to changes in stakeholder collaboration. The remaining 55% variation in performance of safety management system can be attributed to other aspects other than changes in stakeholder collaboration.

The findings also show that stakeholder collaboration and performance of safety management system are strongly and positively related as indicated by a correlation

coefficient (R) value of 0.671. The study findings concur with Stafford *et al.*, (2013) that stakeholder collaboration 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.

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 demonstrates that the model is reliable and can be used to predict performance of safety management system in the Aviation Industry in Kenya.

From the coefficients table, the following model was fitted;

$$Y = 1.244 + 0.329 X_1$$

From the equation above, when stakeholder collaboration is held to a constant zero, performance of safety management system will be at a constant value of 1.244. The findings also show that a unit increase in stakeholder collaboration will lead to a 0.329 unit increase in performance of safety management system. 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 reject the first null hypothesis (H_{01}) and conclude that stakeholder collaboration has significant influence on the performance of safety management system in the Aviation Industry in Kenya.

The findings concur with the study of Makhoulouk *et al.*, (2018) which articulated that merged organizations have a strong links to stakeholder collaboration and with smooth stakeholder integration process, individuals are likely to set smart goals and accomplish their targets at a more fruitful rate but where merged organizations have weak stakeholder engagement mechanisms then smart objectives are not set, leading to goals not met, and as a result poor organization performance.

This study similarly supports the findings of Xue, Zhang, Su, Wu and Yang (2018) that stakeholder collaborative management positively affect cost performance and differential strategies and can be adopted to promote organizational performance and development. The study is in alignment with that of Wondirad, Tolkach and King (2020) whose findings posits that poor interactions and collaborations amongst ecotourism stakeholders hastens the degradation of natural resources, neglecting communities while benefiting other ecotourism stakeholders. Building on the various themes, the study summarized several aspects that support collaboration capacity in organizational projects that could ultimately lead to different trajectories for sustainability outcomes over time.

The findings are contrast to those of Andrianu (2020) who argued that it is the leader's responsibility and not that of the employees to align stakeholder collaboration with organizational strategy in order to attain positive performance outcome. Additionally, the subject study contrasts the findings by Kramar (2014) who reviewed stakeholder engagement, social auditing and corporate sustainability and identified a match between corporate sustainability and social auditing, as both aimed at improving the social, environmental and economic performance of an organization, considering the well-being of a wider variety of stakeholders and requiring the engagement of stakeholders in the process.

The findings in the subject study also contrast those of Omondi *et al.*, (2018) who established that project implementation and expansion are negatively influenced by stakeholders engaged in conflict. The study found out that there was a significant but negative influence of conflicts on project implementation. Stakeholder participation in all aspects of project implementation should be anchored in law, policies and performance appraisal of project managers to forestall uncertainties and complaints from stakeholders in projects. The study found that despite long experimentation with participation, there were still opportunities for improvement in designing a process of stakeholder involvement by addressing stakeholder heterogeneity and the intricacy of decision-making processes.

4.7.2.2 Capacity Building and Performance of Safety Management System

The second objective of the study was to examine the influence of capacity building on performance of safety management system in the Aviation Industry in Kenya. To answer this objective, the study computed simple regression analysis between capacity building and performance of safety management system. The findings were as presented in Table 4.14;

Table 4.14: Simple Regression for Capacity Building

Model Summary					
Model	R	R Squared	Adjusted R Squared	Std. Error of the Estimate	
1	.664 ^a	.441	.440	5.03580	

a. Predictors: (Constant), Capacity Building

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	229.442	1	229.442	9.048	.003 ^b
	Residual	3068.476	121	25.359		
	Total	3297.919	122			

a. Dependent Variable: Performance of SMS

b. Predictors: (Constant), Capacity Building

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.587	0.408		3.890	.000
	Capacity Building	.345	.115	.664	3.008	.003

a. Dependent Variable: Performance of SMS

Results in Table 4.14 on model summary show that the value of R^2 was 0.441; this implies that 44.1% of variation in performance of safety management system can be attributed to changes in capacity building. The remaining 55.9% variation in performance of safety management system can be attributed to other factors other than capacity building.

The findings also show that capacity building and performance of safety management system are strongly and positively related as indicated by a correlation coefficient (R) value of 0.664. The study findings agree with Brown *et al.*, (2020) who affirmed that capacity building actually improves the ability of organization to

perform better in a competitive environment. Also, sharing responsibilities and risks, mutual accountability, and committing to the long-term rather than to short-term capacity building projects are more likely to create partnerships that can withstand vicissitudes and contribute to lasting change.

The ANOVA findings show that the p-value obtained was 0.003 which is less than 0.05, an indication that the model was significant. The findings also show that the F-calculated value 9.048 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 demonstrates that the model is reliable and can be used to predict performance of safety management system in the Aviation Industry in Kenya. This concurs with Brown *et al.*, (2020) who affirmed that capacity building actually improves the ability of an organization to perform better in a competitive environment and staff capacity building is an essential determinant in performance of organizations.

From the coefficients table, the following model was fitted.

$$Y = 1.587 + 0.345 X_2$$

From the equation above, when capacity building is held to a constant zero, performance of safety management system will be at a constant value of 1.587. The findings also show that a unit increase in capacity building will lead to a 0.345 unit increase in performance of safety management system. The findings also show that the t-statistic 3.008 has a p-value = 0.003 which is less than the selected level of significance 0.05. Therefore, we reject the second null hypothesis (H_{02}) and conclude that capacity building has a significant influence on performance of safety management system in the Aviation Industry in Kenya.

The findings concur with Alnidawi *et al.*, (2017) that staff capacity building plays a significant role in every organization's excellence. The study also indicates that conventional capacity-building initiatives have been inclined to focus on the material and tangible aspects of the capacity of an organization and for staff members to be critically self-aware, some fundamental shifts would be both entailed and generated

by focusing on the practice of the development practitioner in relation to organizational development, rather than focusing on external appearances.

The findings are in contrast with those of Bert (2021) whose study only identified coaching and mentorship as the key capacity building elements alluding that employees with higher capacities were more suitable in developing the capacity of colleagues through the two elements. The study asked questions such as where the matches and mismatches with past efforts were, and what kind of capacity building could address the current needs of organizations. From the subject study findings, there is a need for capacity building framework that addresses organizational challenges as a long-term problem.

In a study that supports the subject findings, O'Connell, Donnison, Lynch and Bennett (2022) noted that as globalization pressures grow, the need for delivering relevant and sustainable capacity building in organizations has never been greater. Individuals, organizations and communities need the skills, knowledge and information that allow them to address corporate issues at a variety of spatial scales and in diverse contexts. Capacity is currently built through a range of activities, including tertiary education, training courses, online learning, mentoring and continuing professional development. However, a significant proportion of the current capacity-building provision is non-strategic, project-based and reactive. The aviation sector still lacks a coordinated approach to capacity building linked to broader organizational goals. Without an assessment of current capacity-building provision and future capacity needs, the delivery of capacity building in the aviation sector will remain fundamentally *ad hoc* rather than official.

4.7.2.3 Strategic Leadership and Performance of Safety Management System

The third objective of this study was to examine the influence of strategic leadership on performance of safety management system in the Aviation Industry in Kenya. This objective was answered by regressing strategic leadership and performance of safety management system. Table 4.15 presents the findings obtained;

Table 4.15: Simple Regression for Strategic Leadership

Model Summary

Model	R	R Squared	Adjusted R Squared	Std. Error of the Estimate
1	.710 ^a	.504	.498	4.96355

a. Predictors: (Constant), Strategic Leadership

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	316.861	1	316.861	12.861	.000 ^b
1 Residual	2981.057	121	24.637		
Total	3297.919	122			

a. Dependent Variable: Performance of SMS

b. Predictors: (Constant), Strategic Leadership

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.636	.439		3.727	.001
1	Strategic leadership	.383	.107	.310	3.586	.000

a. Dependent Variable: Performance of SMS

From the findings presented in Table 4.15, the value of adjusted R² was 0.498 which implies that 49.8% of variation in performance of safety management system can be attributed to changes in strategic leadership. The remaining 50.2% variation in performance of safety management system can be attributed to other aspects other than changes in strategic leadership. The findings also show that strategic leadership and performance of safety management system are strongly and positively related as indicated by a correlation coefficient (R) value of 0.710.

The study findings concur with Witts (2016) who established that strategic leadership in terms of strategic thinking, strategic direction and development of core competencies significantly influenced top management team's effectiveness and organizational financial performance. The findings contrast those of M'Mugambi, Okeyo and Muthoka (2021) who noted that strategic leadership was considered to be of moderate importance in County Governments by employees across levels and its relationship with public service ethics compliance had a strong association.

From the ANOVA findings, the p-value obtained was 0.000 which is less than 0.05, an indication that the model was significant. The findings also show that the F-

calculated value 12.861 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 demonstrates that the model is reliable and can be used to predict performance of safety management system in Aviation Industry in Kenya.

From the coefficients table, the following model was fitted.

$$Y = 1.636 + 0.383 X_3$$

From the equation above, when strategic leadership is held to a constant zero, performance of safety management system will be at a constant value of 1.636. The findings also show that a unit increase in strategic leadership will lead to 0.383 units increase in performance of safety management system. The findings also show that the t-statistic 3.586 has a p-value = 0.000 which is less than the selected level of significance 0.05. Therefore, we reject the third null hypothesis (H_{03}) and conclude that strategic leadership has significant influence on performance of safety management system in the Aviation Industry in Kenya.

The findings concur with the findings of Rahman *et al.*, (2018) that strategic leadership had a positive and significant influence on organizational performance. The findings were in contrast with those of Mwangi and Kisimbi (2020) who found that the strategic decision making was not the only variable responsible for lack of quality requirements in the implementation of safety projects at airports but the end users were not involved at conception.

4.7.2.4 Firm Resources and Performance of Safety Management System

The fourth objective of this study was to determine the influence of firm resources on performance of safety management system in the Aviation Industry in Kenya. This objective was answered by conducting simple regression of firm resources and performance of safety management system. The findings obtained were as presented in Table 4.16;

Table 4.16: Simple Regression for Firm Resources

Model Summary

Model	R	R Squared	Adjusted R Squared	Std. Error of the Estimate
1	.688 ^a	.473	.469	5.00007

a. Predictors: (Constant), Firm Resources

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	272.839	1	272.839	10.913	.001 ^b
Residual	3025.079	121	25.001		
Total	3297.919	122			

a. Dependent Variable: Performance of SMS

b. Predictors: (Constant), Firm Resources

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.702	.393		4.331	.000
Firm Resources	.304	.092	.688	3.304	.001

a. Dependent Variable: Performance of SMS

Results in Table 4.16 on model summary show that the value of adjusted R^2 was 0.469; this implies that 46.9% of variations in performance of safety management system can be attributed to changes in firm resources. The remaining 53.1% variations in performance of safety management system can be attributed to other factors other than firm resources. The findings also show that firm resources and performance of safety management system are strongly and positively related as indicated by a correlation coefficient (R) value of 0.688.

The study findings are in line with the findings of Gachua *et al.*, (2016) that implementation of strategies was highly influenced by management commitment and availability of resources for strategic decision-making. This is also in alignment with findings from Kabue and Kilika (2016) who found that an integrated theoretical model for linking firm resources with core competencies and sustainable competitive advantage are necessary while providing for the role of the firm's external environment.

The ANOVA findings show that the p-value obtained was 0.001 which is less than 0.05, an indication that the model was significant. The findings also show that the F-

calculated value 10.913 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 demonstrates that the model is reliable and can be used to predict performance of safety management system in the Aviation Industry in Kenya. This concurs with Ivana *et al.*, (2018) that resources are the basis of organizations' power and dominance over their competitors and that resources enable a firm to conceive and implement strategies that improve its performance. From the coefficients table, the following model was fitted;

$$Y = 1.702 + 0.304 X_4$$

When firm resources are held to a constant zero, performance of SMS will be at a constant value of 1.702. The findings also show that a unit increase in firm resources will lead to a 0.304 unit increase in performance of safety management system. The findings also show that the t-statistic 3.304 has a p-value = 0.001 which is less than the selected level of significance (0.05). Therefore, we reject the fourth null hypothesis (H_{04}) and conclude that firm resources have significant relationship with the performance of safety management system in the Aviation Industry in Kenya.

These findings agree with Lynch (2021) that organizations with resources that are inimitable, rare, non-substitutable and valuable have a competitive advantage over other organizations in the same industry; hence, survival of an organization relies on the organization's ability to acquire and retain resources in the environment. The findings are in contrast with those of Mumbua *et al.*, (2015) who found out the lack of proper alignment of resources with the strategic plans of Machakos County.

4.7.3 Multiple Regression Analysis

Multiple regression analysis was computed to determine the influence of strategic firm level dimensions on performance of safety management system in the Aviation Industry in Kenya. The model adopted was $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$ where X_1 = Stakeholder Collaboration; X_2 = Capacity Building; X_3 = Strategic Leadership; X_4 = Firm Resources; Y is Performance of Safety Management System, α is the Y intercept, β_{1-4} are Coefficients of Regression and ε is the error term of the model. The findings were as presented in Table 4.17;

Table 4.17: Multiple Regression Model Summary

Model	R	R Squared	Adjusted R Squared	Std. Error of the Estimate
1	.893 ^a	.797	.781	4.60055

a. Predictors: (Constant), Stakeholder Collaboration, Capacity Building, Strategic Leadership, Firm Resources

From the findings in the above Table 4.17 on model summary, the value of adjusted R squared was 0.781 suggesting that 78.1% variation in performance of safety management system can be explained by stakeholder collaboration, capacity building, strategic leadership and firm resources. The remaining 21.9% suggests that there are other factors that can be attributed to variation in performance of safety management system that were not captured in the model. Correlation coefficient (R) indicates the relationship strength between the combined independent variables and the dependent variable and from the findings, they were strongly and positively related as indicated by $r = 0.893$.

Table 4.18: ANOVA^a

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	800.443	4	200.111	9.455	.000 ^b
Residual	2497.475	118	21.165		
Total	3297.919	122			

a. Dependent Variable: Performance of SMS

b. Predictors: (Constant), Stakeholder Collaboration, Capacity Building, Strategic Leadership, Firm Resources

From the ANOVA table, the model was significant since the p-value = 0.000 was less than 0.05 thus the model was statistically significant in establishing the influence of stakeholder collaboration, capacity building, strategic leadership and firm resources on performance of safety management system in the Aviation Industry in Kenya. Further, the F-calculated 9.455 was greater than the F-critical ($F_{4,118}=2.449$) suggesting that strategic firm level dimensions can be used to predict performance of safety management system in the Aviation Industry in Kenya.

Table 4.19: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.223	0.366		3.342	0.000
Stakeholder Collaboration	0.307	0.100	0.253	3.070	0.003
1 Capacity Building	0.227	0.085	0.097	2.671	0.022
Strategic Leadership	0.271	0.086	0.257	3.151	0.002
Firm Resources	0.297	0.106	0.241	2.802	0.006

a. Dependent Variable: Performance of SMS

From the coefficients table, the following regression model was fitted:

$$Y = 1.223 + 0.307X_1 + 0.227X_2 + 0.271X_3 + 0.297X_4$$

The model equation above stipulates that holding the variables stakeholder collaboration, capacity building, strategic leadership and firm resources to a constant zero, performance of safety management system in the Aviation Industry in Kenya will be at a constant value of 1.223. The findings demonstrate that stakeholder collaboration had a positive influence on performance of safety management system ($\beta = 0.307$). The influence was significant since the p-value = 0.003 was less than the selected level of significance. Therefore, improvements in stakeholder collaboration results to an increase in performance of safety management system by 0.307 units.

These findings agree with the study by Mousavi *et al.*, (2015) which noted that all forms of stakeholder collaboration had significant relationships with the implementation process to the extent that varied with each kind of engagement. The findings are in contrast to those of Andrianu (2020) who argued that it is the leaders' task and not employees to align stakeholder collaboration with a strategy for positive performance outcome.

Capacity building is also seen to have significant influence on the performance of safety management system ($\beta=0.227$, $p=0.022$). The influence of capacity building on performance of safety management system is seen to be positive. Therefore, improvement in capacity building will result to an increase in performance of safety management system in the Aviation Industry in Kenya. The findings are in

agreement with those of Alnidawi *et al.*, (2017) that organizations tend boost their performance through building the capacities of their employees. The findings are in contrast to those of Nwankwo (2017) who opined that only a few activities should be implemented and more the capacity building activities the more the need for expanded resources.

Further, the findings show that strategic leadership has a positive influence on performance of safety management system ($\beta = 0.271$). The influence was significant since the p-value = 0.002 was less than the selected level of significance 0.05. Therefore, improvement in strategic leadership results to an increase in performance of safety management system by 0.271 units. These findings agree with Ivana *et al.*, (2018) that strategic leadership enables a firm to conceive and implement strategies that improve its performance. The findings are in contrast to those of Mumbua *et al.*, (2015) who found that there was no proper alignment of strategic leadership with the strategic plans of Machakos County.

Finally, firm resources had a significant and positive influence on performance of safety management system ($\beta=0.297$, $p=0.006$). Therefore, an increase in firm resources results to an increase in performance of safety management system in the Aviation Industry in Kenya. The findings concur with Rahman *et al.*, (2018) who indicated that firm resources had a positive and significant influence on organizational performance.

4.7.4 Moderated Multiple Regression Analysis

The fifth objective of the study was to evaluate the moderating influence of organizational culture on the relationship between strategic firm level dimensions and performance of safety management system in the Aviation Industry in Kenya. To answer this objective, the study computed the moderated regression model and the model used was;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_m M + \varepsilon$$

Where M = Organizational Culture (moderating variable).

Table 4.20: Moderated Model Summary

Model	R	R Squared	Adjusted R Squared	Std. Error of the Estimate
1	.893 ^a	.797	.781	4.60055
2	.912 ^a	.832	.826	.08586

a. Predictors: (Constant), Stakeholder Collaboration, Capacity Building, Strategic Leadership, Firm Resources; Stakeholder Collaboration * Organizational Culture, Capacity Building * Organizational Culture, Strategic Leadership * Organizational Culture, Firm Resources * Organizational Culture

In Table 4.20, the model summary findings show that the value of adjusted R squared was 0.781 before the introduction of the moderating variable. Comparing these findings with those of model 2, after the introduction of organizational culture as the moderating variable, the value of adjusted R² increased to 0.826 suggesting that 82.6% variation in performance of safety management system can be explained by changes in moderated stakeholder collaboration, capacity building, strategic leadership and firm resources. The remaining 17.4% denotes other factors that can be attributed to variation in performance of safety management system that were not included in the model. From the findings the moderated variables were strongly and positively related with performance of safety management system as indicated R= 0.912 which is the correlation coefficient (R) demonstrates the relationship strength between the study variables. From the findings, adjusted R squared increased when moderating variable namely organizational culture was introduced; from 0.781 to 0.826. That suggested that introduction of the moderating variable increased the amount of variation in performance of safety management system that can be explained by the variables.

Table 4.21: Moderated ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	800.443	4	200.111	9.455	.000 ^b
	Residual	2497.475	118	21.165		
	Total	3297.919	122			
2	Regression	6.917	4	1.729	16.161	.000 ^c
	Residual	12.626	118	0.107		
	Total	19.543	122			

a. Dependent Variable: Performance of SMS

b. Predictors: (Constant), Stakeholder Collaboration, Capacity Building, Strategic Leadership, Firm Resources

c. Predictors: (Constant), Stakeholder Collaboration, Capacity Building, Strategic Leadership, Firm Resources; Stakeholder Collaboration * Organizational Culture, Capacity Building * Organizational Culture, Strategic Leadership * Organizational Culture, Firm Resources * Organizational Culture

From the ANOVA table, the model was significant since the p-value = 0.000 which was less than 0.05 thus the model was statistically significant in establishing the influence of moderated stakeholder collaboration, capacity building, strategic leadership and firm resources on performance of safety management system. Further, the F-calculated 16.161 was greater than the F-critical ($F_{4,118}=2.449$) suggesting that strategic firm level dimensions moderated by organizational culture can be used to predict performance of safety management system in the Aviation Industry in Kenya. Therefore, the moderating variable was significant.

The findings concur with Saha and Kumar (2018) who confirmed that organizational culture as a moderator in Indian organizational research. The study utilized data from employees working in different departments of organizations to provide unbiased responses and the results demonstrated the impact of affective commitment on employees' job satisfaction as moderated by supportive and innovative cultures. Additionally, the study also proved that bureaucratic culture does not play a crucial role in moderating the relationship between organizational commitment and employees' job satisfaction.

Table 4.22: Moderated Beta Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	Sig.
	B	Std. Error	Beta	
(Constant)	1.484	.153		9.699 .000
1 Stakeholder Collaboration	.245	.075	.256	3.242 .001
Capacity Building	.195	.036	.208	5.475 .000
Strategic Leadership	.328	.105	.296	3.118 .002
Firm Resources	.539	.071	.601	7.619 .000
(Constant)	1.757	0.287		6.122 0.001
2 Stakeholder Collaboration *				
Organizational Culture	0.380	0.087	0.301	4.368 0.007
Capacity Building *				
Organizational Culture	0.314	0.093	0.319	3.376 0.022
Strategic Leadership *				
Organizational Culture	0.311	0.062	0.279	5.016 0.002
Firm Resources *				
Organizational Culture	0.361	0.096	0.219	3.760 0.017

a. Dependent Variable: Performance of SMS

From the coefficients table, the following moderated regression model was fitted:

$$Y = 1.757 + 0.380X_1 * M + 0.314X_2 * M + 0.311X_3 * M + 0.361X_4 * M$$

The model equation above demonstrates that holding the moderated variables stakeholder collaboration * organizational culture; capacity building * organizational culture; strategic leadership * organizational culture; firm resources * organizational culture to a constant zero, performance of safety management system will be at a constant value of 1.757. The findings also show that stakeholder collaboration * organizational culture has a positive influence on performance of safety management system ($\beta = 0.380$). The influence was significant since the p-value = 0.007 was less than the selected level of significance 0.05. Therefore, introduction of organizational culture as a moderating variable for stakeholder collaboration explains 0.380 of performance of safety management system compared to 0.307 explained when the variable is not moderated (Table 4.19). Therefore, organizational culture had a positive influence on the relationship between stakeholder collaboration and performance of safety management system.

Capacity building * organizational culture is also seen to have significant relationship with performance of safety management system ($\beta = 0.314$, $p = 0.022$). The influence of capacity building * organizational culture on performance of safety management system is seen to be positive. Therefore, improvement in capacity building * organizational culture resulted to an improvement in performance of safety management system in the Aviation Industry in Kenya. Therefore, introduction of organizational culture as a moderating variable for capacity building explains 0.314 of performance of safety management system compared to 0.227 explained when the variable is not moderated (Table 4.19). Therefore, organizational culture has a positive influence on the relationship between capacity building and performance of safety management system.

Further, the findings show that strategic leadership * organizational culture has a positive influence on performance of safety management system ($\beta = 0.311$). The influence was significant since p -value = 0.002 was less than the selected level of significance 0.05. Therefore, an improvement in strategic leadership * organizational culture resulted to an increase in performance of safety management system by 0.311 units. Therefore, introduction of organizational culture as a moderating variable for strategic leadership explained 0.311 of performance of safety management system compared to 0.271 explained when the variable was not moderated (Table 4.19). Therefore, organizational culture has a positive influence on the relationship between strategic leadership and performance of safety management system.

Finally, firm resources * organizational culture had a significant relationship with performance of safety management system ($\beta = 0.361$, $p = 0.017$). The influence of firm resources * organizational culture on performance of safety management system was seen to be positive. Therefore, introduction of organizational culture as a moderating variable for firm resources explained 0.361 of performance of safety management system compared to 0.297 explained when the variable was not moderated (Table 4.19). Therefore, organizational culture has a positive influence on the relationship between firm resources and performance of safety management system.

Based on these findings, the value of adjusted R squared increased with the introduction of organizational culture as the moderating variable. This indicated that organizational culture has a positive moderating influence on the relationship between strategic firm level dimensions and the performance of safety management system in the Aviation Industry in Kenya. Also, from the analysis of variance table, the moderated model was found to be significant. Therefore, organizational culture can be said to have a positive and significant moderating influence on the relationship between strategic firm level dimensions and the performance of safety management system in the Aviation Industry in Kenya.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of key findings, conclusions drawn from the findings highlighted and recommendations made thereto. The conclusions and recommendations drawn were focused on addressing the objective of the study and suggestions for further research. In the summary of findings, the study focused on summarizing the findings in relation to each study objective and independent variables. The conclusion responds to the overall research objective of the study on whether strategic firm level dimensions influence the performance of safety management system in the Aviation Industry in Kenya. Recommendations are based on the study findings of each variable and the suggestions made by the respondents and the key informants. The area of further research focuses on future study needs as identified by the researcher.

5.2 Summary of Findings

The summary of findings was presented on each specific objective of the study. The specific objectives were; to establish the influence of stakeholder collaboration on performance of safety management system in the Aviation Industry in Kenya; to examine the influence of capacity building on performance of safety management system in the Aviation Industry in Kenya; to assess the influence of strategic leadership on performance of safety management system in the Aviation Industry in Kenya; to determine the influence of firm resources on performance of safety management system in the Aviation Industry in Kenya; to establish the moderating influence of organizational culture on the relationship between strategic firm level dimensions and performance of safety management system in the a Aviation Industry in Kenya. Quantitative data was analyzed using both descriptive statistics and inferential statistics. Prior to engagement of research instruments, the reliability and

validity was determined through a pilot study. Quantitative data collected was analysed with the aid of Statistical Package for Social Sciences while qualitative data was analysed using content analysis.

5.2.1 To establish the influence of stakeholder collaboration on performance of safety management system in the Aviation Industry in Kenya

The first specific objective of the study was to establish the influence of stakeholder collaboration on performance of safety management system in the Aviation Industry in Kenya. The hypothesis tested was stakeholder collaboration has no significant influence on performance of safety management system in the Aviation industry in Kenya. The study found that stakeholder collaboration has a statistically significant influence on performance of safety management system in the Aviation Industry in Kenya. Further, organizations held safety management system consultation forums with other aviation service providers while other organizations embraced joint engagement with stakeholders in the aviation sector.

The involvement of key players is critical to the process of safety management implementation and operation as well as helping in solving problems that might arise in implementation. Deeper public relations grounded on reliable opportunities for meeting the concerns and sharing among stakeholders is more likely to build trustworthiness and confidence to facilitate execution of strategies and review of processes thus boosting performance levels. This confirms the important role that stakeholders play in the performance of safety management system in the Aviation Industry in Kenya. The findings showed that multifaceted characteristics of stakeholders could enhance safety systems. Stakeholder collaboration is an amalgamation of critical characteristics of players inside and outside organizations and calls for their mutual support, co-operation, experience and participation.

The hypothesis was accepted and the conclusion was that there is a significant relationship between stakeholder collaboration and performance of safety management system in the Aviation Industry aviation industry in Kenya. The model was found to be fit to predict the performance of safety management system using Stakeholder collaboration.

5.2.2 To examine the influence of capacity building on performance of safety management system in the Aviation Industry in Kenya

The second specific objective of the study was to establish the influence of capacity building on performance of safety management system in the Aviation Industry in Kenya. The hypothesis tested was capacity building has no significant influence on performance of safety management system in the Aviation industry in Kenya. The study disclosed that management assists employees with means to discharge their duties successfully and organizations supported the practice of empowering employees to enhance smooth implementation of safety management system.

The study also established that the main aim of capacity building was to enhance competency of individuals which was also used to measure performance levels of the organization. Motivated and empowered employees had the capacity and flexibility crucial in enhancing the overall performance of an organization. Through capacity building, employees received knowledge essential to the general performance and prosperity of an organization. Since knowledge is considered as the most important resource to the success of firms it should be harnessed and utilized. Capacity building is the only way an organization can ensure that it fully benefits from the knowledge its employees possess. They also explained that lack of capacity building results to tension between management and the workers and consequently negative influence in the organization's performance

The hypothesis was accepted and the conclusion was that there is a significant relationship between capacity building and performance of safety management system in the Aviation Industry in Kenya. Similarly, harmonization of aviation training among staff members offered an opportunity not only to increase the availability of affordable and quality all-encompassing training, but also promote compatibility among operators and safety oversight organizations. The model was found to be fit to predict the performance of safety management system using capacity building.

5.2.3 To assess the influence of strategic leadership on performance of safety management system in the Aviation Industry in Kenya

The third specific objective of the study was to establish the influence of strategic leadership on performance of safety management system in the Aviation Industry in Kenya. The hypothesis tested was strategic leadership has no significant influence on performance of safety management system in the Aviation industry in Kenya. The study found out that there exists a positive relationship between strategic controls on safety management system performance in the Aviation Industry in Kenya. Some aviation service providers had laid down various strategic controls and measures. The purpose of establishing control processes by the aviation service players is to correct anomalies arising from unintended results from implemented strategies.

It was also unveiled that strategic leaders acted as a resource to organizations as they played a major role in the achievement of competitive advantage. It was also found that strategic leadership in the Aviation Industry ensured institutionalization of rules and procedures. Strategic direction is not only a helpful way in which the dominant coalition impacts organizational outcomes, but also the symbolism and social construction of top executives and therefore the strategic direction had a significant influence on performance of safety management system. Strategic leadership dimensions that affected the performance of safety management system included purpose and vision, determination of strategic direction, exploitation and maintenance of core competencies, development of human capital, emphasis on ethical practices and establishment of strategic control.

The hypothesis was accepted and the conclusion was that there is a significant relationship between strategic leadership and performance of safety management system in the Aviation Industry in Kenya. The model was found to be fit to predict the performance of safety management system using strategic leadership.

5.2.4 To determine the influence of firm resources on performance of safety management system in the Aviation Industry in Kenya

The fourth specific objective of the study was to establish the influence of firm resources on performance of safety management system in the Aviation Industry in Kenya. The hypothesis tested was firm resources has no significant influence on performance of safety management system in the Aviation industry in Kenya. The study found that the safety management system departments were not always consulted and involved in the determination of the budgetary allocations of financial resources for safety management system activities. Some organizations had insufficient allocation of financial resources during budgeting process for safety management system activities; and other organizations had elaborate knowledge application technologies within the safety management system department

The study also disclosed that each firm developed competencies from the firm resources to gain unique competitive advantage over competitors. Therefore, assets, organizational processes, capabilities, knowledge, information, and other capacities controlled by an organization permitted the development and implementation of effective strategies. The study explained that companies having resources that are rare and difficult to imitate or substitute within the industry had a better position of exploiting and attaining competitive advantage in the market. Therefore, if the aviation company lacks appropriate resources to operate safety management system, it would be challenging to achieve the required safety management system performance targets.

The hypothesis was accepted and the conclusion was that there is a significant relationship between firm resources and performance of safety management system in the Aviation Industry in Kenya. The model was found to be fit to predict the performance of safety management system using firm resources.

5.2.5 To establish the moderating influence of organizational culture on the relationship between strategic firm level dimensions and performance of safety management system in the Aviation Industry in Kenya

The fifth specific objective of the study was to establish the moderating influence of organizational culture on the relationship between performance of safety management system in the Aviation Industry in Kenya. The hypothesis tested was organizational culture has no significant moderating influence on the relationship between strategic firm level dimensions and performance of safety management system in the Aviation Industry in Kenya.

The study established that the culture of any organization will affect performance because it influences the nature of relationship between clients and stakeholders. Culture also determined the level of employee commitment and their level of efficiency. Also, when the culture in an organization is considered to be safe then employees become more willing to report safety events. Flexible approaches in policy crafting influenced strategy implementation as opposed to more procedural views.

Organizational culture plays a crucial role in determining the effectiveness of organizations and stimulating or engendering many other activities that bring about corporate success. Additionally, the study found that all the strategic firm level dimensions that were reviewed in this study were moderated by organizational culture and their combined influence performance of safety management system in the Aviation Industry in Kenya was positive and significant. Also, when the culture in an organization is considered to be safe then employees become more willing to report safety events. Flexible approaches in policy crafting influenced strategy implementation as opposed to more procedural views.

The hypothesis was accepted and the conclusion was that strategic firm level dimensions moderated by organizational culture can be used to predict performance of safety management system in the Aviation Industry in Kenya.

5.3 Conclusions of the study

The study aimed to examine the influence of strategic firm level dimensions on performance of safety management system in the Aviation Industry in Kenya. Based on the literature review and the study findings, it is logical to conclude that stakeholder collaboration, capacity building, strategic leadership, and firm resources influence the performance of safety management system in the Aviation Industry in Kenya. The results confirmed that the model as conceptualized in chapter two was fit to predict the performance of safety management system using strategic firm level dimensions. The conclusions therefore summarize each variable in order of significance in influencing performance of safety management system in the Aviation Industry in Kenya.

Stakeholder collaboration had a positive influence on performance of safety management system in the aviation industry in Kenya. Stakeholder sessions and problem solving when conducted by aviation service providers increased performance of safety management system. Other aspects like joint engagement of the aviation organizations had a statistically significant influence on performance of safety management system in the Aviation Industry in Kenya. Since it was concluded that all aspects of stakeholder collaboration had positive influence on performance of safety management system, the null hypothesis was rejected.

In regard to capacity building, the study concluded that it had statistically significant influence on performance of safety management system. Capacity building had a positive influence on performance of safety management system as confirmed by an analysis of aspects such as empowerment, technical skills and advocacy skills. In conclusion, it was eminent that improvement in capacity building aspects resulted to an increase in performance of safety management system in the Aviation Industry in Kenya. The null hypothesis was thus rejected. Based on the study findings, it was established that strategic leadership has statistically significant and positive relationship with performance of safety management system in the aviation industry in Kenya.

This view, which is in alignment with prior studies that different leadership dimensions jointly influenced organizational performance, was derived after investigating strategic decision making, strategic control and strategic direction. It was concluded that strategic leadership influenced performance of safety management system in the Aviation Industry in Kenya. The null hypothesis was rejected.

On firm resources, the study established that firm resources had a positive influence on performance of safety management system. Also, the influence was found to be statistically significant and that implied that increase in firm resources resulted into an increase in performance of safety management system. The respondents, after analysis, alluded to the fact that financial resources, technical resources and human capital resources played a crucial role of impacting on the performance of safety management systems in the Aviation Industry in Kenya. Thus, the conclusion that firm resources influenced the performance of safety management system in the Aviation Industry in Kenya and hence the null hypothesis was rejected.

The correlation and regression results revealed that organizational culture moderated the relationship between strategic firm level dimensions and performance of safety management system in the Aviation Industry in Kenya. The Null hypothesis was rejected implying the existence of the moderating influence of organizational culture between dependent and the independent variables. The null hypothesis was rejected. It was therefore concluded that the relationship between strategic firm level dimensions and performance of safety management system in the Aviation Industry in Kenya was moderated by the organization culture.

5.4 Recommendations

This section presents recommendations based on findings on the objectives of the study and from the literature review on strategic firm levels and performance of safety management system. Derived from the findings and conclusion, recommendations from the study are hereby proposed with an intent to improve the performance of safety management system in the aviation industry in Kenya. The recommendations are based on the independent variables stakeholder collaboration,

strategic leadership, firm resources, capacity building and moderator variable, organization culture.

Managerial Implications

The study recommends congruous consultations between aviation players and designing consultation protocols that suit unique needs of different aviation players under consideration. These consultations would be introduced in parallel to benchmarking schemes and tools with leading industry players harmoniously coordinated to ensure data protection. The solution to building and maintaining an ultra-safe environment in aviation lies in cultivating an open, safety-conscious culture, where partnerships and ongoing dialogues between multiple stakeholders are encouraged to review existing practices and recommend new practices that can help to advance future safety.

The study further recommends harmonization of aviation training programs among African states focusing on the few relevant and core capacity building activities in safety management. Also, there is need to enhance capacity building of employees through re-orientation, refresher courses and more sensitization on safety management strategies taking into consideration the evolving growth in the Aviation Industry.

This study also recommends that strategic leadership practices by aviation service providers in Kenya be adopted to ensure successful implementation of safety management system as it enhances as strategic agility. To further inculcate the practise, concepts of strategic leadership should form the curriculum of safety management system theoretical training.

Further, the study recommends that top management ensures that organizational resources are sufficient to implement safety management system in their organisations. It is important to identify and examine strategic advantages based on organizations' discrete combination of assets, skills and capabilities as an entity and develop competencies from the firm level resources to enhance performance, skills and practices. It is recommended that aviation service providers be accorded

sufficient allocation of financial resources during budgeting for safety management system activities.

The study also recommends leaders to embrace organizational culture as an essential component pertaining to the performance of safety management system in their organizations. Aviation service providers in Kenya need to understand and manage organizational culture in order to achieve sustainable improvement in the number of accidents, incidents and non-compliance occurrences, hence improved performance of safety management system. Further recommendation is for these organizations to adopt a culture of reporting occurrences, either voluntarily or non-voluntarily in their aviation operations.

Recommendations for Policy Makers

In regards to policy implementation, the research recommends that the Ministry of Transport, as it is in charge of aviation currently, ensures that regulatory requirements are met as prescribed by the International Civil Aviation Organization. The government can enforce this by availing sufficient number of aviation inspectors and trainers to the service providers to ensure compliance. The government can also host webinars, seminars and workshops to update the players of emerging regulations and trends.

Based on the findings of this study, the researcher recommends that aviation service leaders should adopt strategic leadership practices in order to achieve the desired organizational performance in the aviation industry.

Contributions to Theory

This study was underpinned by stakeholder theory, capacity building theory of change, upper echelon theory, resource-based view, organizational culture theory and domino theory. The current study contributes towards incorporation of knowledge on strategic management practices from the context of aviation service providers practicing safety management system. The evaluation of the relationship between strategic firm level dimensions and performance of safety management system in aviation service

firms in Kenya provides a significant contribution to the strategic management practice literature.

This study is a demonstration of the weight that the performance of safety management system would lose if the leaders in this industry do not adopt strategic management practices as identified and propounded in this study. This study contributed to the knowledge on the strategic management in emphasizing on these practices and established specifically the extent to which each of the four variables had effect on the performance of safety management system. From the findings of this study, the gap in strategic management practices in the performance of safety management system was empirically filled through these study findings.

Contribution to Existing Body of Knowledge

This study reviewed extensive literature and classified the strategic firm level dimensions that had subtle inter-relationships under thematic areas to constitute grouped determinants of performance of safety management system. Thematic areas that contextually apply to the local aviation setting were used. In most previous studies, separate factors were considered separately and generally assumed to contribute to overall performance of safety management system. This amalgamation of related factors based on the local aviation context forms a basis and useful stepping stone for future research engagements in the area of safety management in the Aviation Industry.

The hypothesized strategic firm level dimensions as captured in this study are relevant to all organizations, including those in Aviation Industry. Putting these factors under several thematic classifications has been simplified so that all and sundry practitioners in the discipline of strategic management can easily identify and allocate accordingly depending on the unique dynamics in different organizations. In as much as this study employed certain aspects that have been developed for other organizational contexts, efforts were put in place to ensure that the aspects chosen fit well within the area of enhancing successful performance of safety management system, and most especially as is appropriate in the Aviation Industry.

5.5 Areas for Further Research

The general objective of this study was to establish the influence of strategic firm level dimensions on performance of safety management system in the Aviation Industry in Kenya. The dimensions included stakeholder collaboration, capacity building, strategic leadership and firm resources; the relationship was moderated by organizational culture. From the findings, all the dimensions had a positive and statistically significant influence on performance of safety management system, though with a differing magnitude. There arises a need for further research to compare the magnitude of the influence on other industries like maritime, rail and multimodal transport. Furthermore, strategic firm level dimensions are beyond the number that has been under scrutiny in this research. The strategic firm level dimensions under investigation in this research were stakeholder collaboration, capacity building, strategic leadership and firm resources. It would be useful to conduct further research on other strategic firm level factors.

The descriptive analysis of the present research indicated that the percentage of male gender significantly outweighed the female gender in aviation industry. Consequently, this phenomenon gives rise to the need to conduct further study on the genesis of this gender imbalance and probably determine the solution.

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APPENDICES

Appendix I: Letter of Introduction

Bedan Kimeria Thendu,
P.O. Box 62000 – 00200,
Nairobi, Kenya.

Dear Respondent,

RE: REQUEST TO COLLECT DATA

I am a student at Jomo Kenyatta University of Agriculture and Technology pursuing a Doctorate Degree in Strategic Management. For the fulfilment of the requirements of the course, I am conducting a research on *Strategic Firm Level Dimensions and Performance of Safety Management System in the Aviation Industry in Kenya*. You have been selected to participate in this study and I therefore humbly request you assist in completing the attached questionnaire. Please note that this is purely for academic purposes towards attainment of the above purpose. You are hereby assured that the information will be treated confidentially and will only be used for research purposes.

Yours sincerely,

BEDAN KIMERIA THENDU

Email: thendukimari@gmail.com

Appendix II: Research Questionnaire

Strategic Firm Level Dimensions and Performance of Safety Management System in the Aviation Industry in Kenya

Please fill this questionnaire openly and honestly. Confidentiality will be adhered to strictly and there will be no mention of your personal name nor your bank. Kindly provide the following information as required;

Section A: Background Information

Respondent Information

No.	Tick appropriate choice
1	Age (Years); <input type="checkbox"/> Below 25 <input type="checkbox"/> 26-30 <input type="checkbox"/> 31-35 <input type="checkbox"/> 36-40 <input type="checkbox"/> 41-45 <input type="checkbox"/> 46-50 <input type="checkbox"/> 51 years and above
2	What is your level of education achieved? <input type="checkbox"/> KCPE <input type="checkbox"/> KCSE <input type="checkbox"/> Diploma <input type="checkbox"/> Bachelor's Degree <input type="checkbox"/> Postgraduate <input type="checkbox"/> Others (specify).....
3	Which of the following organizations do you work with? <input type="checkbox"/> Air Traffic Services <input type="checkbox"/> Av. Maintenance Org. <input type="checkbox"/> Av. Training Org. <input type="checkbox"/> International Aircraft Operators <input type="checkbox"/> Certified Aerodrome Operator
4	Number of years worked in the current organization: <input type="checkbox"/> Less than 2 years <input type="checkbox"/> 2 years - 4 years <input type="checkbox"/> 5 years - 7 years <input type="checkbox"/> 8 years- 10 years <input type="checkbox"/> 11 years- 13 years <input type="checkbox"/> 14 years –16 years <input type="checkbox"/> Above 16 years

Please indicate to what extent you agree or disagree with the following statements by ticking **ONE** answer in the appropriate box. Scale of 1 - Strongly Disagree and 5 - Strongly Agree

Section B: Stakeholder Collaboration

1. Stakeholder Collaboration	SD	D	N	A	SA
Joint Engagement					
1.1 Our organization embraces joint engagement with stakeholders in the aviation					

sector.					
1.2 Our organization has internal elaborate means of joint engagement on safety management system issues.					
Shareholders' Consultations 1.3 Our organization holds safety management system consultation forums with other aviation service providers					
1.4 Our organization has devised means of sharing and tracking information regarding safety management system with other aviation service providers.					
Collaborative Problem Solving 1.6 Our organization embraces collaborative problem solving with stakeholders in the aviation sector.					
1.7 Our organization has internal elaborate means of problem solving on safety management system issues.					

Other than the aspects mentioned above, in your opinion, what other stakeholder collaboration issues determine performance of safety management system in the Aviation Industry in Kenya?

.....

What challenges do you face from stakeholders while carrying out the day to day activities in your organization?

.....

Please indicate to what extent you agree or disagree with the following statements by ticking **ONE** answer in the appropriate box. Scale of 1 - Strongly Disagree and 5 - Strongly Agree

Section C: Capacity Building

2. Capacity Building	SD	D	N	A	SA
Staff Empowerment 2.1 Our organization supports the practice of empowering employees to enhance smooth					

implementation of safety management system.					
2.2 Management assists employees with means to discharge their duties successfully.					
Technical Skills Development 2.3 The safety management system staff in our organization possess prerequisite technical skills related to conduct safety management system activities.					
2.4 Our organization has a database of technical skills gaps geared towards achieving performance of safety management system in our organization.					
Advocacy Skills Development 2.5 Safety management system staff in our organization possess prerequisite advocacy skills related to safety management system strategies.					
2.6 The staff in our organization are sensitized on safety management system values, policies and strategies.					

In your opinion, other than the aspects mentioned above, what other capacity building issues affect the performance of safety management system in the Aviation Industry in Kenya

.....
.....
.....

Please indicate to what extent you agree or disagree with the following statements by ticking **ONE** answer in the appropriate box. Scale of 1 - Strongly Disagree and 5 - Strongly Agree

Section D: Strategic Leadership

3. Strategic Leadership	SD	D	N	A	SA
Strategic Decision Making					
3.1 Our organization encourages employees to make decisions with minimal formal monitoring.					
3.2 Our organization has a clearly defined decision-making policy.					
3.3 Our top management always makes timely					

decisions.					
Strategic Direction 3.4 Our organization clearly defines its mission to achieve high performance of safety management system.					
3.5 Our top management is committed to building trusting relationship to move employees to a desired direction.					
Strategic Control 3.6 Our top management has developed a series of actions to manage risks and safety management issues.					
3.7 Our top management tracks all safety management system strategies to their implementation.					
3.8 Our top management adjusts and improves safety management system strategies where necessary.					

3.9 Other than the aspects mentioned above, what other strategic leadership dimensions do you think affect performance of SMS in the Aviation Industry in Kenya?

.....

Please indicate to what extent you agree or disagree with the following statements by ticking **ONE** answer in the appropriate box. Scale of 1 - Strongly Disagree and 5 - Strongly Agree

Section E: Firm Resources

4. Firm Resources	SD	D	N	A	SA
Financial Resources 4.1 Our organization has sufficient allocation of financial resources during budgeting process for safety management system activities.					
4.2 The safety management system department is consulted and involved in the determination of budgetary allocation of financial resources for safety management system activities.					

Technological Resources 4.3 Our organization has adequate technological facilities and working tools to support safety management system activities.					
4.4 Our organization has elaborate knowledge application technologies within the safety management system department.					
Human Capital Resources 4.5 Our organization has qualified personnel to execute safety management system tasks as mandated.					
4.6 Our safety management system department is sufficiently staffed to execute its required mandate.					

4.7 In what other ways do you think firm resources determine performance of safety management system in the Aviation Industry in Kenya?

.....

.....

.....

.....

.....

.....

Please indicate to what extent you agree or disagree with the following statements by ticking **ONE** answer in the appropriate box. Scale of 1 - Strongly Disagree and 5 - Strongly Agree

Section F: Organizational Culture

5. Organizational Culture	SD	D	N	A	SA
Artifacts 5.1 Our organization regularly conducts team building activities					
5.2 Our organization encourages cross functional interactions					
5.3 Our managers develop and create a spirit of unity, trust and innovation in the organization					
Espoused values					

5.4 Managers encourage positive values in our organization					
5.5 Our culture encourages employee's loyalty and sense of belonging					
Change Management 5.6 Our organization provides prior awareness on new strategies					
5.7 Our organisation encourages certain degree of flexibility of employees in executing change processes					
5.8 Our organization has change management policies that are known to staff.					

Other than the aspects mentioned above, what other organizational culture factors do you think influence performance of safety management system in the Aviation Industry in Kenya?.....

.....
.....
.....
.....

Please indicate to what extent you agree or disagree with the following statements by ticking **ONE** answer in the appropriate box. Scale of 1 - Strongly Disagree and 5 - Strongly Agree

Section G: Performance of Safety Management System in the Aviation Industry in Kenya

6. Performance of SMS in the Aviation Industry in Kenya	SD	D	N	A	SA
6.1 Our organization meets operational regulatory requirements by aviation sector regulators.					
6.2 Technologies adopted for safety management system in our organization are up to par.					
6.3 Risk management pertaining to SMS is effective in our organization.					
6.4 Frequency of accidents is always monitored by our organization.					
6.5 Emergency response planning is considered an important tenet in my organization.					

6.6 Overall quality of safety management system in our organization is good.					
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Date

Thank you for taking time to complete the questionnaire

Appendix III: Secondary Data Collection Sheet

Item/year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Number of Incidents Occurrences											
Number of Accidents Occurrences											
Number of Non-Compliance Occurrences											

Appendix IV: List of Air Traffic Service Providers

S/N	ATS Provider	Location
1.	Eldoret Control Tower	Eldoret Town
2.	JKIA Control Tower	Embakasi, Nairobi
3.	Kisumu Control Tower	Kisumu City
4.	Lokichoggio Control Tower	Lokichoggio Town
5.	Malindi Control Tower	Malindi Town
6.	Mombasa Control Tower	Mombasa City
7.	Wajir Control Tower	Wajir Town
8.	Wilson Control Tower	Langata, Nairobi
9.	Diani Airport	Kwale County

Source: Kenya Civil Aviation Authority (2020)

Appendix V: List of Approved Training Organizations

S/No	Approved Training Organization	Location
1.	Aerolink Training Centre	Langata Road
2.	Aerosafe African Consultants	Wilson
3.	Capital Connect Aviation Supplies	Wilson
4.	East African School of Aviation	Embakasi
5.	Flight Training Centre	Wilson
6.	Kenya School of Flying	Wilson
7.	KQ Pride Centre	Embakasi
8.	Moi University School of Aerospace	Eldoret
9.	Nairobi Flight Training	Wilson
10	Ninety Nines Flying	Wilson
11	Pegasus Flyers (EA) Limited	Wilson
12	Proactive Training Services	Wilson
13	Sicham Aviation Limited	Wilson
14	Skylink Flight Services	Wilson
15	Skymax Aviation Limited	Wilson
16	Standards Aviation	Wilson
17	Think Aviation Training	Wilson
18	Valentine Air Services	Wilson
19	Westrift Aviation Limited	Wilson

Source: Kenya Civil Aviation Authority (2020)

Appendix VI: List of Approved Maintenance Organizations (AMO)

SN	NAME OF AMO	LOCATION
1	Aberdare Aviation Limited	Wilson
2	Aero Maintenance Services Limited	Wilson
3	Aeroatlas Technologies Limited	Wilson
4	Aeronav Maintenance Limited	Wilson
5	Africair Helicopters	Wilson
6	African Express Airways	JKIA
7	Aim Air	Wilson
8	Aircare Aero Ltd	Wilson
9	Aircare Avionics Communication (K) Ltd	Wilson
10	Aircraft Engineering Services	Wilson
11	Air Kenya Express Limited	Wilson
12	Air Traffic Limited	Wilson
13	Airworks (K) Limited	Wilson
14	ALS Ltd	Wilson
15	Avionicare EA Ltd	Wilson
16	Ben Air Engineering	Wilson
17	Blackbox Flight Data System	Wilson
18	Bluebird Aviation Ltd	Wilson
19	Bush Air Safaris	Wilson
20	DAC Aviation Limited	Wilson
21	DLCO	Wilson
22	East African Safari Air (EASAX)	Wilson
23	Everett Aviation Limited	Wilson
24	Farmland Aviation	Wilson
25	Fly 540	Wilson
26	Freedom Airlines	Wilson
27	Hawk Aviation Limited	Wilson
28	Helicopters International	Wilson
29	Jubba Airways Limited	JKIA
30	Kasas Limited	Wilson
31	Kenya Airways Plc	JKIA
32	Kenya Wildlife Services	Wilson
33	Lady Lori Kenya Ltd	Wilson
34	Lightplane Maintenance Limited	Wilson
35	Mission Aviation Fellowship	Wilson
36	Nairobi Flying Services	Wilson
37	Phoenix Aviation	Wilson
38	Pro Aviation Services Ltd	Wilson
39	Propulsion System	Wilson
40	Rudufu Limited	Wilson
41	Sac Air Limited	Wilson
42	Safarilink Aviation Limited	Wilson
43	Seven Four Eight (748) Air Services (K) Limited	Wilson
44	Skycruise Air Services	Wilson

45	Skyline Services Ltd	Wilson
46	Skyward Express Limited	Wilson
47	Superior Aviation Ltd	Wilson
48	Trans African Air Limited	Wilson
49	Tropic Air Limited	Wilson
50	Z. Boskovic	Wilson

Source: Kenya Civil Aviation Authority (2020)

Appendix VII: List of Certified Aerodrome Operators

SN	Aerodrome Operator	Location
1.	Diani Airport	KAA, Diani
2.	Eastleigh Airport	KAF, Eastleigh
3.	Eldoret International Airport	KAA, Eldoret
4.	Isiolo International Airport	KAA, Isiolo
5.	Jomo Kenyatta International Airport	KAA, JKIA
6.	Kisumu International Airport	KAA, Kisumu
7.	Lodwar Airport	KAA, Lodwar
8.	Lokichoggio Airport	KAA, Lokichoggio
9.	Malindi Airport	KAA, Malindi
10	Moi International Airport, Mombasa	KAA, Mombasa
11	Wajir Airport	KAA, Wajir
12	Wilson Airport	KAA, Wilson



Source: Kenya Civil Aviation Authority (2020)


Appendix VIII: List of Aircraft Operators in Kenya

S/No.	Name of Operator	Base
1.	748 Aviation Services	Wilson
2.	Aberdare Aviation	Wilson
3.	Aero-Pioneer Group	Wilson
4.	African Express Airways	JKIA
5.	Aim Air	Wilson
6.	Aircraft Leasing Services	Wilson
7.	AirKenya Limited	Wilson
8.	Airlink Services	Wilson
9.	Air Traffic Services	Wilson
10.	Astral Aviation	JKIA
11.	Aushaan Air	Wilson
12.	Blue Sky Aviation Services	Wilson
13.	Bluebird Aviation	Wilson
14.	Buffair	JKIA
15.	CMC	Wilson
16.	DAALO Airlines	JKIA
17.	East African Safari Air	Wilson
18.	Fanjet Express	Wilson
19.	Fly 540	JKIA
20.	Fly Sax	Wilson
21.	Freedom Air Services	Wilson
22.	Jambo Jet	JKIA
23.	Jetways Airlines	Wilson
24.	Jubba Airways	JKIA
25.	Kasas	Wilson
26.	Kenya Airways	JKIA
27.	Kenya Police Airwing	Wilson
28.	Lady Lori	Wilson
29.	Médecins Sans Frontières	Lokichoggio
30.	Mission Aviation Fellowship (MAF)	Wilson
31.	Mombasa Air Safari	MIA
32.	Pan African Airway	Wilson
33.	Phoenix Aviation Kenya	Wilson
34.	Reliance Air Charters	Wilson
35.	Ribway Cargo Airlines	Wilson
36.	Rudufu	Wilson
37.	Safari Express Cargo	JKIA
38.	Safarilink	Wilson
39.	Silverstone Aviation Services	Wilson
40.	Skyward Services	Wilson
41.	Tamarind Air	Wilson
42.	Transworld Safaris	Wilson

Source: Planespotters (2021)

Appendix IX: Research Permit

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