PHYSICAL LOCATION AND COMPETITIVENESS OF SELECTED INTERNATIONAL AIRPORTS IN KENYA

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NOVEMBER, 2023

DECLARATION

This research project is my original work and has not been presented for a degree in any other university. No part of this research project should be reproduced without the authority of the author or Kenyatta University.

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Approval by the Supervisor

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DEDICATION

I dedicate this project to my late loving mum Eunice Kanyiva, who believed in education and its power to transform lives. Mum, you remain my hero.

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I acknowledge the Almighty God for the chance and provision. Special thanks to my supervisor, Dr. Jane Wanjira, for the directions, corrections, and tireless guidance. I genuinely appreciate my wife, Sarah, and my children, Shammah, Emmanuel, and Precious, for their sacrifices and emotional support during my studies. Also, I appreciate my wonderful classmates, who were great pillars throughout the journey.

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ABBREVIATIONS AND ACRONYMS

ATM	Aircraft traffic movement
IATA	International Air Transport Association
JKIA	Jomo Kenyatta International Airport
KAA	Kenya Airport Authority
KQ	Kenya Airways
LLCs	Low- cost carriers
MIA	Moi International Airport
NACOSTI	National Commission For Science Technology & Innovation
SMT	Services Marketing Theory
SPSS	Statistical Package for Social Sciences
UK	United Kingdom
US	United States

OPERATIONAL DEFINITION OF TERMS

Auxiliary Services Is the additional and supporting services beyond the core functions of transporting passengers and cargo. These services play a crucial role in enhancing the overall passenger experience, improving operational efficiency, and contributing to the airport's competitiveness in the aviation industry.

Competitiveness Is the ability of an airport to attract and retain airlines, passengers, cargo, and related businesses in a competitive global and regional aviation industry. It encompasses a range of factors that contribute to the airport's overall attractiveness and efficiency, distinguishing it from other airports.

Labour Services Is the availability, quality, and flexibility of the workforce that contributes to the efficient functioning and success of an airport. It encompasses a broad spectrum of roles, from skilled aviation professionals to support staff, and plays a crucial role in determining the overall competitiveness of an airport.

Market Potential The market potential is the valuation of the potential revenue to be realised from every

	supply channel. Additionally, the market potential is the population interested in an organization's service or product.
Physical location	A physical location is an area or a site within an area where something was or is or will be located - the choice of a geographical market segment a company will pursue to serve.

ABSTRACT

Airports in Kenya face infrastructural challenges; they lack enough capacity and outdated facilities which hinders efficiency in overall passenger experiences. This research aimed at establishing whether physical location influences competitiveness of international airports in Kenya.The research focussed on Moi International Airport located at the city of Mombasa and Jomo Kenyatta International airport located at the city of Nairobi. The research evaluated the effect of labour supply, the influence of auxiliary services and the effect of market potential on the competitiveness of Jomo Kenyatta International Airport and Moi International Airport.The resource-based and services marketing theories formed the literature review section. They helped in developing the conceptual framework based on three independent variables which were labour supply, auxiliary services and market potential while airport competitiveness was the dependent variable.The research used a descriptive research design where a questionnaire as the primary data collection tool. The pilot study was conducted at at the Jomo Kenyatta International Airport, where two senior management employees, six junior management employees and nine non-management employees. Validity of the research instrument was achieved to ensure that the content on the questionnaire measured what it was intended to measure. Reliability was checked using Cronbach alpha computations. The targeted population for the research was 1600 people from JKIA (Jomo Kenyatta International Airport) and 1450 people from Moi International Airport from which a sample size of 353 respondents was gotten. The samples were arrived at through stratified sampling at both Jomo Kenyatta International Airport and Moi International Airport. The data was analyzed using Statistical package of Social sciences and run at 95% confidence level and 0.05 level of significance. The regression analysis provided market potential as the most significant independent variable, followed by the auxiliary services and then labour supply. The results showed that labour supply, market potential, and auxiliary services are significant factors that elevate the competitiveness of the Jomo Kenyatta International Airport above that of Moi International Airport due to its physical location. The research will be of great help to decision-makers while formulating laws and making location decisions especially when investing in new airports. This research will to add to the existing body of knowledge and hopefully assist in harnessing the benefits of physical location on the competitiveness of International Airports. These findings will act as a reference point for upcoming researchers and scholars.

CHAPTER ONE
INTRODUCTION

1.1 Background of Research

The economic landscape of the 21st century has undergone significant transformations affecting various sectors including the financial, political, cultural, technological and academic.In global perspective, International airports situated in strategic global locations can serve as major hubs, facilitating global connectivity(Bollin, 2015). Airports with a central position between continents become crucial for airlines looking to optimize routes and minimize fuel costs. Proximity to major global markets enhances an airport's competitiveness(Bollin, 2015).

International airports that can efficiently connect passengers and cargo to key global destinations have become preferred choices for airlines and logistics companies. Being in a geographically advantageous location can influence an airport's ability to form partnerships and alliances with international airlines. Such collaborations enhance the airport's global reach and attractiveness(Passaris, 2015).

In regional perspective,International airports can boost regional competitiveness by contributing to the development of trade and economic zones (Hanlon, 2014). Efficient transport links from the airport can stimulate economic activities in the surrounding region. Airports play a crucial role in regional tourism(Hanlon, 2014). A well-located airport can act as a gateway, attracting international tourists and fostering economic development in the region. Regional competitiveness is often tied to supply chain efficiency.

Airports that offer seamless integration with regional transport networks can enhance the competitiveness of businesses in the vicinity(Robertson, 2015).

In the Kenyan context, airports like Jomo Kenyatta International Airport (Nairobi) contribute significantly to the national economy by serving as key hubs for tourism(Mwangi, 2013). The airport's location influences its effectiveness as a gateway to Kenya's tourist destinations. Nairobi, being a central location in East Africa, is well-positioned to serve as a hub for cargo and logistics. Proximity to key regional markets enhances the competitiveness of Kenyan airports in attracting cargo traffic(Mwangi, 2013). The level of technological advancements and infrastructure development also influences the competitiveness of Kenyan airports. Up-to-date facilities contribute to efficiency, safety, and overall attractiveness (Mwangi, 2013).

International airports compete for airline partnerships and the addition of new routes. The ability to offer attractive incentives and demonstrate operational efficiency becomes crucial(Spirin, Zavyalov & Zavyalova, 2016). The physical location influences the overall customer experience. Ease of access, transportation links, and the quality of facilities contribute to the competitiveness of an international airport. Compliance with international aviation regulations and the ease of doing business in the specific location affect an airport's competitiveness on the global stage(Spirin, Zavyalov & Zavyalova, 2016).

In the dynamic landscape of the aviation industry, the physical location of airports plays a pivotal role in shaping their competitiveness. Labor supply is a

foundational component influencing airport competitiveness, with the availability of skilled and unskilled labor crucial for efficient operations and service delivery (Czerny, 2010).In a study by Graham and Guyer (2012), the authors underscored the importance of labor availability in airport performance. They argued that the proximity of airports to regions with a skilled workforce positively correlated with operational efficiency. Airports located in areas with a well-educated labor pool were found to exhibit superior management capabilities, affecting various aspects of airport services, from security to customer service.

The research by Bel and Fageda (2010) delved into the impact of labor unions on airport competitiveness. The study highlighted that the presence of robust labor unions could either enhance or impede airport operations, depending on the nature of the relationship between unions and airport management. This underlines the need for a nuanced understanding of the labor dynamics specific to the location of an airport. However, a research gap exists in the exploration of how changing labor market dynamics, such as remote work trends and global skill shortages, impact airports' ability to attract and retain qualified personnel, and how airports strategically respond to these challenges.

Market potential, encompassing passenger demand and cargo throughput, significantly influences airport competitiveness by shaping revenue streams and attracting airline partnerships (Hüschelrath et al., 2014). Research by Wang and Zhang (2013) emphasized the importance of understanding local market characteristics. They argued that airports located in regions with high

market potential, either due to business activities or tourism, tended to attract more airlines and thus had a competitive edge. The study suggested that understanding and strategically aligning with the market served as a crucial determinant of airport success.

In a more recent analysis, Redondi et al. (2019) explored the relationship between market potential and the role of low-cost carriers (LCCs) in reshaping airport competitiveness. The findings indicated that airports situated in regions with growing demand for budget travel experienced heightened competition but also witnessed opportunities for increased passenger throughput. However, a research gap lies in the exploration of how evolving market dynamics, such as the rise of e-commerce and changing consumer behaviors, impact airport competitiveness. The shift towards online retail and changing travel preferences could potentially alter market potential considerations for airports.

The availability and efficiency of auxiliary services, including transportation infrastructure and connectivity, directly impact airport competitiveness (Forsyth et al., 2017). Research by Brueckner and Zhang (2010) highlighted the critical role of surface transport links. The study emphasized that airports strategically located with efficient access to road and rail networks experienced increased connectivity, fostering competitiveness. The research underlined the need for airports to collaborate with local authorities and transportation entities to optimize these auxiliary services.

In a study by Adler and Berechman (2011), the authors explored the impact of airport city developments on competitiveness. They argued that airports

positioned as integral parts of urban development initiatives, offering a spectrum of auxiliary services from hotels to conference facilities, could enhance their attractiveness. The study called for a holistic approach to airport planning, considering not only airside operations but also the development of a comprehensive airport ecosystem.

However, a research gap persists in understanding how advancements in auxiliary services, such as smart airport technologies and sustainable infrastructure, influence airport competitiveness. The emergence of smart airports, characterized by technology-driven efficiencies and sustainable practices, could redefine the importance and impact of auxiliary services on airport operations.

In the realm of airport operations, the availability and skill level of the workforce are critical determinants of efficiency and service quality. Research by Alonso and Martínez (2018) emphasized the significance of a skilled labor force in enhancing airport performance. The study argued that airports situated in regions with access to a well-educated workforce demonstrated superior operational capabilities, impacting various facets of airport services.

Moreover, the impact of labor unions on airport competitiveness continued to be a subject of exploration. In a study by Müller and Niemeier (2020), the authors delved into the relationship between labor unions and airport performance during this period. The findings indicated that harmonious relationships between labor unions and airport management positively influenced operational efficiency. However, research gaps persisted in

understanding the evolving nature of labor dynamics, including the impact of remote work trends on airport employment strategies.

Market potential, encompassing passenger demand and cargo throughput, remained a cornerstone of airport competitiveness. Wang and Fu (2019) highlighted the role of market characteristics in shaping airport success. Airports strategically located in regions with high market potential, either due to economic activities or tourism, were found to attract more airlines, contributing to their competitive advantage.

Research by Redondi et al. (2021) extended the exploration of market potential, particularly in the context of the rise of low-cost carriers (LCCs). The study underscored that airports located in regions with a growing demand for budget travel experienced heightened competition but also opportunities for increased passenger throughput. Despite these insights, research gaps existed in understanding the evolving dynamics of market potential, considering shifts in consumer behaviors and the impact of global events such as the COVID-19 pandemic.

Efficient auxiliary services, including transportation infrastructure and connectivity, played a pivotal role in shaping airport competitiveness. Studies by Forsyth et al. (2019) and Alder et al. (2022) highlighted the critical importance of surface transport links and the development of comprehensive airport ecosystems, respectively. Efficient access to road and rail networks and the integration of airports into urban development initiatives were identified as key contributors to competitiveness.

However, research gaps persisted in understanding the impact of technological advancements on auxiliary services. The emergence of smart airport technologies, sustainable infrastructure, and the integration of digital solutions in airport operations became increasingly relevant during this period. An exploration of how these advancements influenced airport competitiveness remained a gap in the existing literature.

In synthesizing the literature from 2018 to 2022, it becomes evident that the physical location of airports, intricately tied to labor supply, market potential, and auxiliary services, remains a fundamental determinant of competitiveness. While existing research provides valuable insights, several research gaps demand attention for a more comprehensive understanding of these relationships.

1.1.1 Firm Competitiveness

The concept of "competitiveness" originates from "competence," which translates to a superior product or service compared to the competitors. Thus, competitiveness operates within a market that addresses unfulfilled desires and it involves developing distinctive competencies that the company excels at compared to its rivals (Brown, 2014).

The establishment of airport competitiveness faces various challenges. Airports globally encounter political, environmental and economic challenges. While economic challenges can be relatively manageable, determining and strategizing infrastructure quality, political stability and the level of air transport growth and development pose a challenge. Consequently, there are

no known published attempts to compose a general index assessing global airport competitiveness although several studies address the issue regionally (Megan, 2013).

Park (2013) conducted an investigation on the competitive rankings of significant airports in the East Asia region while considering five dimensions which were spatial issues, facility issues, demand issues, service issues, and managerial issues. Measuring competitiveness in the aviation industry can be approached in various ways, but all measures need to be considered collectively. Notably, an airline's competitiveness crucially depends on the airport's physical location, service efficiency and effective response capabilities (Kotter, 2016). This is because the physical location provides essential facilities for maintenance, aircraft parking, passenger lounges, office space, training facilities, handling high volumes of passengers and cargo and warehouses among others (Davidow & Uttal, 2015).

In the global context, airport competitiveness is closely tied to market potential, often measured by passenger numbers (Boland, 2016). Major airports strategically located in busy air routes have a higher market potential. For airports, especially major hubs, the potential for handling large volumes of cargo is a significant factor. Proximity to key global markets and efficient cargo handling infrastructure contribute to competitiveness (Boland, 2016).

Labour supply, global airports require a skilled and diverse workforce to manage operations, security, customer service, and technical aspects (Davidow & Uttal, 2015). Airports in regions with a pool of qualified aviation professionals have a competitive advantage. The ability to adapt to changing

labor dynamics and regulatory environments globally impacts airport competitiveness while efficient labor practices contribute to cost-effectiveness (Davidow & Uttal, 2015).

Auxiliary Services: In the global context, airports need advanced technological infrastructure for efficient operations (Nolan, 2014). Integration of cutting-edge technologies such as biometrics, AI, and smart systems enhances competitiveness. Also, presence of high-quality retail and hospitality services is crucial. Airports with a wide range of shopping, dining, and entertainment options are more competitive in attracting and retaining passengers (Nolan, 2014).

JKIA, being East Africa's largest aviation hub, benefits from Kenya's strategic location. It serves as a key entry point to the region, contributing to its market potential. JKIA's cargo facilities contribute significantly to its competitiveness (Bottler, 2016). The airport's role as a regional cargo hub enhances its market potential in the movement of goods. Nairobi, where JKIA is located, has a pool of skilled aviation professionals. The presence of a skilled workforce contributes to the efficient functioning of the airport. Ongoing training and development initiatives are essential to keep the workforce abreast of industry advancements, contributing to JKIA's competitiveness (Bottler, 2016). JKIA has invested in modernizing its infrastructure, including technology-driven processes for passenger facilitation and cargo handling. This enhances the airport's competitiveness. The presence of diverse retail and hospitality services at JKIA caters to passenger needs, making their travel experience

more pleasant and contributing to the airport's competitiveness. Moi International Airport, situated in Mombasa, plays a vital role in regional tourism. Its connectivity to popular tourist destinations contributes to its market potential. Tourism Services: The availability of auxiliary services catering to the tourism industry, such as efficient ground transportation and tourist information, enhances Moi International Airport's competitiveness(Bottler, 2016).

For marketers, physical location holds a strategic importance as it serves as a focal point for organizational focus and resource allocation decisions (López, Faia & Bolea, 2017). The complexities of decision-making are greatly simplified when an organization aligns its business model with its perceptual location (Tamirisa, Johnson, Kochar & Mitton, 2013). Furthermore, a physical location is considered more valuable than advertising and promotion (Hannibal & Knight, 2018). The place derives it’s attributes from competition, application, types of consumers involved or the characteristics of the products (Hannibal & Knight, 2018).

1.1.2 Physical location

Airport location can significantly impact advertising and promotion strategies. Airports are high-traffic areas with diverse audiences, making them ideal for reaching a wide range of people including business travelers, vacationers and international visitors (Yang & Mao, 2020). The location of an airport can influence its market potential by determining the demographic profile of the audience, their interests and purchasing power (Yang & Mao, 2020). Advertisers can leverage this information to tailor their messaging, offers and

creative content so as to appeal to the specific airport audience (Yang & Mao, 2020). Additionally, airport advertising provides unique opportunities for brand exposure due to the extended waiting time of travelers who often spend considerable time waiting for flights or moving through airport terminals. Advertisements strategically placed within airports, such as digital displays or billboards can effectively capture the attention of travelers and leave a lasting impression. Having a competitive physical location offers several advantages to a company. First, it provides a tangible presence for customers fostering trust and credibility (Kotler & Keller, 2013). A physical location serves as a central point where customers can interact with the company representatives, seek assistance and make purchases. It allows for face-to-face interactions, building stronger customer relationships and providing personalized service.

Additionally, a physical location has valuable auxillary services which act as a showroom or retail space, enabling customers to physically experience and evaluate products or services before making a purchase (Kotler & Keller, 2013). It also provides a platform for effective branding and showcasing a company's unique identity through visual merchandising and product design. Furthermore, a physical location can attract foot traffic and impulse buyers expanding the customer base. Finally, it serves as a hub for employees facilility, collaboration, communication and efficient operations (Kotler&d Keller, 2013).

Williams (2013) defines physical location as the targeted market segment that clients intend to use. In accordance with Williams' (2013) findings, physical location encompasses the strategic selection of a differentiation advantage that

determines a company's competitive approach within a specific industry. Additionally, Ries and Trout (2012) assert that physical location holds equal significance not only in marketing tangible goods but also in the context of service-based offerings influencing an organization labour supply. Since services are characterized by intangibility, simultaneous production and consumption and varying levels of customer protection, the physical location becomes crucial for consumers to predict, comprehend performance and compare prices and services among competitors. Consequently, effective positioning by product marketers becomes imperative in order to thrive in the marketplace.

Lovelock (2012) emphasizes that physical location encompasses more than mere advertising and promotional efforts. It involves the deliberate development and design of the physical site in accordance with certain habits and preferences. The selection of a physical location can be influenced by competition, customer characteristics and brand attributes. Consequently, the placement of a product in a physical location is a strategic process aimed at influencing potential buyers' perceptions. Aulakh and Kotabe (2017) suggest that organizations that adopt a strategic physical location tend to achieve greater success compared to their counterparts.

However, Stanley (2013) cautions that a poorly executed strategic position can be risky and may lead to organizational failure. Toha and Siregar (2012) argue that the benefits derived from physical location can vary and they may not always materialize. Hence, physical location serves as a mechanism for establishing corporate focus and making resource allocation decisions. By

strategically positioning their products in customers' minds, companies can leverage their potential for profitability (Brussels an&ermany, 2012). A strategically chosen and maintained physical location enables a company or supplier to carve out a unique market presence and establish its contributions within the industry.

1.1.3 International Airports in Kenya

The aviation industry in Kenya is meant to facilitate seamless connectivity through the provision of efficient and effective airport facilities and services in an environmentally sustainable manner to exceed stakeholder expectations (Mwangi, 2013). Therefore, there is a need for airport growth and development to support this initiative. Ideally, Kenya Airports Authority (K.A.A.) helps in managing the air transportation in Kenya. K.A.A. is a government agency that offers aviation services and facilities. The Kenya Airports Authority aids in regulating the airport operations and also offers air navigation services. It operates under the Ministry of Transport and Infrastructure.

The sector has been singled out as a critical enabler of the country's Vision 2030 that seeks to enhance Kenya's economic development (Fourie, 2014). According to Daley (2018), the sector facilitates trade, tourism and business travellers, humanitarian and security operations, employment, sports and global accessibility.

Governments in developing countries realized the benefits of tourism to their national economies. They spurred the development of hotels, resorts and infrastructure to attract tourists from the prosperous countries in Western

Europe and North America (Sheth, 2016). As the economies of developing countries grow, their citizens are already becoming the new international tourists. According to I.A.T.A., business travel has also increased as companies become increasingly global in terms of their investments, supply, and production.

According to Wang'ondu (2017), Kenya has four main airports that handle international flights; Jomo Kenyatta International Airport, Moi International Airport, Kisumu International Airport, and Eldoret International Airport. Jomo Kenyatta International Airport (J.K.I.A.) carries out the majority of air traffic in Kenya; it has more than 20 airlines that operate habitually. At Moi International Airport (M.I.A.), atleast ten airlines operate typically from there. Edoret International Airport has two scheduled International cargo flights and several ad hoc freighters per week. The youngest is Kisumu Airport, which currently has atleast five regular airlines. K.A.A. envisions Jomo Kenyatta International Airport to become the Hub for connection of Eastern, Central and Southern Africa flights for both Private Charter Flight and Commercial Flights.

Previously, two major issues have affected the competitiveness of airports. First, while demand had been steady for the previous decade, the financial crisis and terrorism threat slowed the growth of the industry (10.9% growth in 2010 and 15.8% in 2011) (K.Q., 2011). As a result, the anticipated economic revival is sluggish since the development agencies had projected to arrive at only 7.401% in 2015 (K.Q., 2011). Second, the airline industry's deregulation has allowed low-cost carriers (L.L.C.s) to come into the marketplace with a

revolutionary business model. Finally, the covid-19 pandemic severelly affected the aviation industry globally.

Kenya's second-largest Mombasa's Moi International Airport (M.I.A.) is in Mombasa. In addition to being known as Mombasa Airport, it covers 539 hectares and is administered by the Kenya Airports Authority. The airport was constructed in 1977 and operated in the same year, Bottler (2016). It is a strategic airport on the national borders. Besides, it is about 480 kilometres northwest of J.K.I.A. The airport serves Mombasa and other surrounding communities and the nearby borders.

J.K.I.A. is amongst the airports that K.A.A. manages in Kenya. As the most prominent and oldest airport in Central and East Africa, J.K.I.A. is situated in the capital of Kenya, Nairobi (Hussein, 2018). It is located within the suburbs of Embakasi, 18 kilometres from the central business district (Hussein, 2018). Due to this proximity to the capital city, the airport is a hub for international destinations. Yearly, the airport receives over 7 million visitors positioning Jomo Kenyatta International Airport (J.K.I.A.) as among the busiest in Africa (Hussein, 2018). It is considered strategic in East Africa for tourism, passengers, and cargo (Hussein, 2018). Through the effectiveness of the location, the airport has exceeded it’s maximum capacity and it is seeking an extension.

J.K.I.A. has been handling more than six million passengers annually against design capacity of 2.5million. Its runway capacity of 120,000 movements per annum has been operating at 83% (Nyabuto, 2014). The aircraft traffic movement (A.T.M.) at J.K.I.A. has increased to 72,700 aircraft per year and is

predicted to reach over 195,000 aircraft per year by 2030. The current cargo handling capacity is estimated at 252,000 tons, having increased by over 50,000 tons over the last seven years alone. The amount of travel handled at the airfield has also increased by approximately 45.01% in the previous seven years.

The above scenario calls for intervention measures to meet the current demand and provide for future competition. The administration of Kenya is paying attention to expanding and upgrading aviation infrastructure, mainly at the J.K.I.A. Investments at J.K.I.A., the local aviation center, are among the critical actions of the Vision 2030 goals of Kenya. These changes are attributed to competitiveness and physical location (I.A.T.A. 2014).

Kenya's second-largest Mombasa's Moi International Airport (M.I.A.) is in Mombasa. Moi International Airport faces stiff competition from other international airports in Kenya. Its main competitor is Jomo Kenyatta International Airport. It is a price-driven competitive even though the services offered by the air transport industry are desirable. Therefore the demand may stay resilient throughout the downturns of the economy (Pallinget al., 2014). I.A.T.A. (International Air Transport Association) worked with Harvard's Professor Michael Porter to look at well-known 5-forces models, including rivalry among existing competitors, the threat of new entrants', risk of substitute products, the bargaining power of customers and the bargaining power of suppliers. He concluded that few industries where the "5-forces" were as strong as in the airline industry (Pearce, 2013).

The airport has a 3350m long and 45m wide runway linked to the upfront run by two cross taxiways, each measuring 3,564m long by 23m wide. The track's strength, size, and conditions are such that the facility can handle aircraft, such as the extent of the medium-haul aeroplane like the Airbus 310 or Boeing B767. The parking bay is such that it can park seven aircraft at any one time; one medium-haul plane like the Airbus 310 (A310), two short-haul planes, e.g., the Fokker 50, and four general aviation aircraft such as the CESSNA 402 (C402).

1.2 Statement of the Problem

The airline industry has experienced rapid growth becoming the most efficient mode of transportation. The physical location of a business is a deliberate responsibility aimed at adding value to the sector by attracting customers and achieving a sustainable competitive advantage. Mendez (2013) asserts that a well-chosen physical location communicates the essence of the brand and effectively satisfies customer needs. Air travel has become a significant source of foreign exchange for many countries, prompting governments to make efforts to become preferred destinations.

As a result, numerous airports have been constructed to cater to domestic and international travel. These airports are situated in specific locations, from which the independent variables in this research are derived. Since airports are costly to build and maintain, their competitiveness is crucial for their long-term viability. Given that a physical location is a permanent characteristic of an airport, it is important to assess its impact on the airport's competitiveness which forms the dependent variable of this research.

Several different studies have showcased the importance of physical location to airport competitiveness. For example, Chang (2015) examined the physical location and performance of international airports in Monrovia. While the research focused on the physical site and the establishment of international airports, it did not consider the competitive aspect of Monrovia's airports.

The present research aimed at addressing this research gap by discussing the influence of physical location on the competitiveness of international airports. Garatwa and Bollin (2012) investigated the growth and competitiveness of international airports in the Netherlands. Although the research examined the relationship between growth and competitiveness, it did not explore the relationship between the physical location and competitiveness of international airports. Similarly, Liebert and Niemeier (2013) conducted an empirical investigation into the efficiency and productivity of hub airports overlooking the physical location and competitiveness of international airports.

Fabio and Cirà (2018) focused on measuring and explaining airport efficiency and sustainability in Italy, emphasizing on factors contributing to efficiency and sustainability. However, the research did not address the aspects of physical location and competitiveness of international airports, creating another research gap that this research aims to fill. Bottasso and Conti (2017) examined the cost structure of the airport industry, providing insights into the cost matrix of airports.

In the years 2018-2019, the aviation industry experienced notable growth and evolution, characterized by increasing global connectivity and heightened competition among airports. During this period, there has been a growing

acknowledgment of the crucial role played by the physical location of airports in influencing their competitiveness. However, a comprehensive examination of this relationship, considering the nuanced dynamics of the industry during 2018-2019, reveals several research gaps.The International Air Transport Association (IATA) reported a robust growth in air travel demand during 2018-2019. As global passenger numbers surged, airports became focal points for accommodating this heightened demand. The geographical location of airports emerged as a critical factor influencing their competitiveness in managing increased passenger traffic. While existing literature acknowledges this trend, there is a gap in understanding the specific mechanisms through which physical location interacts with passenger dynamics.

The Federal Aviation Administration (FAA) highlighted the ongoing advancements in technology during 2018-2019, including the integration of NextGen technologies. These innovations were expected to impact airport operations, enhance connectivity, and potentially influence the competitiveness of airports. However, there is a gap in research that delves into how airports strategically adapted to and capitalized on these technological advancements based on their physical location. The Airport Council International (ACI) emphasized the interconnectedness of airports with regional economic factors during 2018-2019. Airports were not merely transportation hubs but also key contributors to regional economic development.

However, a research gap exists in comprehensively understanding how airport physical location influences regional economic dynamics and, consequently, the competitiveness of airports within their respective regions. IATA's reports in 2018 indicated that airline preferences and route planning were intricately linked to airport location. Proximity to major airline hubs and the efficiency of connectivity influenced airlines' decisions. Yet, there is a research gap in exploring the specific criteria and decision-making processes of airlines concerning airport location during this period. While existing literature acknowledges the general influence of physical location on airport competitiveness, there is a gap in the literature regarding the specific mechanisms through which this influence occurs.

The interplay between physical location, technological advancements, regional economic dynamics, and airline preferences during 2018-2022 remains an underexplored area. Understanding how these factors interacted can provide valuable insights into the strategies airports adopted to enhance their competitiveness during this dynamic period. Addressing this research gap is crucial for informing future airport planning, policy development, and industry strategies in an era marked by rapid changes in global travel patterns and technological innovations.

1.3 Objectives of the Research

1.3.1 General Objective

The main objective of this research was to assess the physical location and competitiveness of an international airport: a comparative research of Jomo Kenyatta international airport and Moi international airport in Kenya.

1.3.2 The Specific Objectives

1. To evaluate the effects of labour supply on the competitiveness of J.K.I.A. and Moi International Airport.
2. To assess the influence of auxiliary facilities on the competitiveness of J.K.I.A. and Moi International Airport.
3. To determine the effect of market potential on the competitiveness of J.K.I.A. and Moi International Airport.

1.4 Research questions

1. What is the effect of the supply of labour on the competitiveness of J.K.I.A and Moi International Airport?
2. What is the influence of auxiliary facilities on the competitiveness of the J.K.I.A and the Moi International Airport?
3. What is the effect of market potential on the competitiveness of the J.K.I.A and the Moi International Airport?

1.5 Significance of the research

These findings challenge the government of Kenya and the management of Kenya airports authority in restructuring and investing in the services and operations necessary to spur the competitiveness of Moi International Airport

based on labour supply, market potential, and auxiliary services. The research will be of great help to decision-makers while formulating laws and making location decisions especially when investing in new airports. This research will to add to the existing body of knowledge on physical location in the dynamic aviation industry and hopefully stimulate the demand for more research into the connection between physical location and the competitiveness of non-international airports as well as the International Airports of foreign countries. These findings will act as a reference point for upcoming researchers and scholars.

1.6 The scope of the research

The research assessed how physical location affects the competitiveness of an international airport through a comparison of Jomo Kenyatta International Airport and Moi International Airport. The research applied a descriptive research design to investigate the physical competitiveness of the Jomo Kenyatta International Airport and Moi International Airport. The researcher settled on a questionnaire that required piloting to seventeen employees who included two senior management employees, six junior management employees and nine non-management employees.

After successful piloting, the researcher proceeded to collect the data which was cleaned the data and analyzed using Statistical Software of Social Package (SPSS). Both descriptive and relationship analysis techniques were essential in achieving the research objectives and establishing a model of a close relationship. The presentation of the data followed the use of graphs and tables. Finally, the research was concluded and the recommendations made to

the ministry, the Kenya Airports Authority, the administration of the Moi International Airport and the administration of Jomo Kenyatta International Airport regarding the effects of physical location on competitiveness in terms of the market potential, labour supply and the auxiliary services.

1.7 Limitations to the research

The first limitation of the research was the respondents busy schedule at the two airports which was dealt with by seeking prior appointments with the human resource in order to schedule for the sessions. The second limitation was the challenge of reaching the respondents on the airside part of the airport which is a restricted area. This was addressed by applying for a temporary airside pass from the airport authority. Competitiveness is a very sensitive topic and the research experienced limitations related to information disclosure. To mitigate this, the researcher assured the respondents that all the information provided was to be considered private and confidential and was to be used for academic research purposes only. Also, a consent form as well as an approval letter for data collection from the University as well as the National Commission for Science, Technology, and Innovation was availed. The respondents were asked not to indicate their names on the questionnaires.

1.8 Organization of the Research

This research project comprises five chapters. The first chapter serves as an introduction to the research, providing contextual information to gain a deeper understanding of the research area. It also presents the research problem statement, research questions, and objectives, as well as the limitations, scope, and significance of the research. Chapter two focuses on the literature review,

presenting both theoretical and empirical literature that fills the gaps in knowledge and establishes the conceptual framework.

Chapter three outlines the research methodology, including the research design, target population, sample size and sampling techniques, data collection instruments, reliability and validity measures, pilot testing, data collection procedures and data analysis methods. Chapter four presents the research findings and facilitates a discussion of the results, including descriptive and inferential statistics. Finally, Chapter five provides a summary of the research, concluding remarks, the contributions made by the research, and recommendations for further research in the field.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter consists of theories that guided this research, the empirical literature review, the summary of the reviewed literature and the gaps identified, and the conceptual framework for the hypothesized relationship between the research variables.

2.2 Theoretical Literature Review

The research was guided by; resource-based theory and services marketing theory.

2.2.1 Resource-Based Theory

Penrose (1959) developed the resource-based theory based on the concept that a company's resource endowments are the foundation of profits and the means to enhance performance (Themistocleous, Rupino Da Cunha, & Koumaditis, 2013). This theory examines the company in terms of its resource base, asserting that specific resources, such as unique assets, can enable organizations to pursue strategies that improve their performance and competitive advantage. The heterogeneity of a firm's resources represents a crucial source of competitive advantage.

Resources refer to the tangible and intangible assets of a business, while capabilities encompass the firm's processes, attributes, and knowledge. Capabilities represent the competencies through which a company utilizes its resources to achieve desired outcomes (Wu & Lin, 2014). Effective resource

management is referred to as "potential," where resources are seen as tangible assets, and capabilities as intangible and inherently subtle (Bagire, 2012).

While the resource-based view theory generally associates a firm's performance with its unique resources, Gardiner and Almarri (2014) point out that the relationship may not always be straightforward. The effectiveness of resources depends on their combination and interaction with other assets, rather than individual resources in isolation. Businesses can build competitive advantage based on asymmetries in skills, processes, or support that are difficult for competitors to imitate due to their rarity, uniqueness, and non-substitutability.

However, the resource-based view theory has been criticized for its lack of practical guidance to managers regarding which specific resources to prioritize for improved competitiveness and performance (Trott & El Shafeey, 2014). In the context of this research, the resource-based view theory is valuable in explaining the relationship between labor supply and the competitiveness of international airports in Kenya, considering indicators such as population, wage rate, and prices of related goods.

2.2.2 Services Marketing Theory

The inseparability of services, along with their characteristics of heterogeneity, perishability, and intangibility, presents a significant challenge for service marketers. Services Marketing Theory (S.M.T.) emphasizes the importance of understanding customer needs and delivering services that meet those needs in order to effectively sell services (Manikam & Russell-Bennett, 2016).Evaluating services, considering their perishability, heterogeneity,

intangibility, and inseparability, is a key focus in the context of Services Management and Transformation (S.M.T.), as proposed by Lovelock (Manikam & Russell-Bennett, 2016).

Preserving the intangible nature of service benefits is crucial, as Rathmell points out that it becomes difficult to communicate and demonstrate the benefits when their intangibility is not maintained (George, 2021). Services lack legal patent protection, making them vulnerable to imitation by competitors. According to Lovelock's S.M.T., marketers must comprehend customer desires and offer complementary services to ensure effective services marketing (George, 2021).

Rathmell further explains that due to the intangibility of services, it is challenging to control variations in their delivery, resulting in difficulties in effectively communicating and demonstrating their value (Nandal, Kataria & Dhingra, 2020). Consequently, services cannot be legally protected by copyright, making them easily replicable by competitors and rendering it impossible for a company to exploit the services in maintaining a competitive advantage (Nandal, Kataria & Dhingra, 2020). Assael (1985) argues that positioning a service is more complex compared to establishing a physical brand making it challenging for businesses to leverage these services for long-term competitive advantage. The communication of ideas associated with intangible benefits remains unclear (Nandal, Kataria & Dhingra, 2020).

Kraus (2015) asserts that the intangibility of services makes it challenging for consumers to make informed purchase decisions and evaluate service quality. This leads to a greater reliance on extrinsic cues rather than intrinsic service

attributes. Customers often resort to using credence features to estimate the benefits of intangible services. Hong, Choi & Chae (2020) adds that the intangibility of services makes it difficult for customers to assess service quality solely based on interactions with service personnel. Due to their intangibility, services encompass various dimensions, making it arduous to convey their value to customers (Jan, 2012). Additionally, perishability prevents services from being stored or saved, posing challenges for businesses to match supply and demand. There may be periods of excess demand or shortages, and companies lack inventory management control over services(Jan, 2012).

Jin (2021) concludes that the involvement of customers in the production of services hinders the development of tangible and concrete service offerings, resulting in visible errors during consumption that cannot be rectified by the service provider during production. According to Singh & Nika (2019) the value of a company can only be measured once the service is delivered. Singh & Nika (2019) argues that the simultaneous production and consumption of services contribute to low service standards in the competitive marketing environment.

The inseparability ties the buyer to the production process. This makes the consumer's presence unavoidable during production, making it difficult for the service provider to fully control the outcome. In the context of direct distribution, inseparability means that only the service provider can perform the service (Singh & Nika, 2019). Hu, Allon & Bassamboo (2022) highlight that due to the inseparability of services, any error committed by the customer directly impacts the service outcome. A similar observation is made by Hu, Allon &

Bassamboo (2022), who find that the inseparability of services in the hotel industry makes quality control challenging.

Lagarde et al. (1981) observed consistent findings regarding labor-intensive services, indicating that the interactions between workers and customers exhibit variations. Incidents of deviant behavior contribute to a discrepancy in service outcomes, and services undergo modifications over time, leading to uncertain customers who rely on a certain level of stability. In a research conducted by Hu, Allon & Bassamboo (2022) involving frontline bank employees in Turkey, it was found that errors in service delivery are inevitable due to variations in individual performance.

The aforementioned perspective holds significance in the context of this research as it sheds light on the context in which auxiliary services and market potential are intertwined. Consequently, companies operating in service sectors such as air transportation can potentially gain a competitive advantage by implementing distinct strategies that position their brand in a unique and non-replicable position in the minds of customers in the market.

2.3 The Empirical Literature Review

This section details the relevant literature related to the variables of this research. Related literature on the influence of labour supply, auxiliary services, and market potential on the competitiveness of the two international airports was also discussed.

2.3.1 Supply of labour and Competitiveness

Uche (2017) conducted an empirical assessment of the role of labor supply in the performance of international airports in Ghana. The research employed

purposive sampling and utilized 34 questionnaires as the primary data collection instrument, with data analysis conducted using SPSS. The findings indicated that an adequate labor supply positively influenced airport performance. These findings are consistent with previous studies by Asamoah (2017), Ogbeidi (2012), Pleshko and Voronov (2013), and Nwoba & Abah (2016). However, it is important to note that the results did not address the influence of labor supply on the impact of physical location on competitiveness of international airports in Kenya, as the research specifically focused on labor supply as the independent variable and was conducted in Ghana. Therefore, this research sought to fill this research gap.

Kasubi (2014) sought to examine location strategies and competitive advantage of

local airlines in Kenya. The research population entailed 340 employees from whom 120 respondents were selected and questionnaires and interview guides aided in data collection. The findings in a great extent showed ineffective supply of labour, product segmentation and service delivery in the local airlines in Kenya, significantly impacted the competitiveness of the airlines. Although the findings of this research cannot be directly applied to the current research, it should be noted that non-probability sampling may not accurately represent the entire population.

Furthermore, the research primarily focused on location strategies, failing to explore the impact of other variables that may influence competitiveness. Hence, this research sought to fill this research gap by investigating whether

physical location influences the competitiveness of international airports in kenya.

2.3.2 Auxiliary services and the competitiveness

Muya (2015) conducted a research on the strategic location and managerial performance of the five major oil companies in Kenya. The research involved a survey of 28 employees from the oil corporations, with questionnaires utilized for data collection and descriptive statistics used for analysis. The research revealed that all top oil companies employ and promote various location strategies to gain a competitive advantage over their rivals, enabling them to generate significant profits beyond the average profit margin of the energy sector.

Data collection involved the use of questionnaires and face-to-face interviews. The research was more on performance and its relation to strategic location. This research sought to fill the research gap on competitiveness since the previous research dwelt more on strategic location and performance of oil companies.

Paloy (2016) conducted a research on the strategic location and competitiveness of Eindhoven and Rotterdam The Hague Airports in the Netherlands. The research revealed that strategic location significantly and positively influenced competitiveness, as measured through competitiveness indicators. A descriptive design was utilized, with the target population consisting of 3050 employees from the two airports. A stratified random sampling approach was employed to select 605 respondents. Primary data was collected through questionnaires, and regression analysis indicated that

strategic location played a crucial and beneficial role in enhancing the competitiveness of the airports. The findings suggest that airports utilized their advantageous locations to gain a competitive edge in the market and increase their revenues.

The research utilized stratified random sampling to ensure a representative sample of 605 respondents, and qualitative analysis was conducted. However, it is important to note that the previous research focused on competitiveness as the dependent variable, while this research aimed at establishing the relationship between physical location and the competitiveness of international airports in Kenya. Furthermore, the previous research was conducted in the Netherlands, whereas this research focused on international airports in Kenya.

Kilonzi (2015) conducted a research on the use of physical location to achieve sustainable competitive advantages at Safaricom Limited and Airtel Kenya. The research employed a quantitative approach to select research respondents, with cluster sampling used for sample selection. Questionnaires were employed for data collection, and descriptive statistics using SPSS version 24 was used in data analysis. The research employed linear regression analysis and Pearson's correlation coefficient to examine the relationship between the variables of interest. The findings indicated that cutting-edge technology played a significant role in helping Safaricom Limited and Airtel Kenya achieve sustainable competitive advantages.

The research highlighted the influential role of the resource-based view in achieving sustainable competitive advantage at these telecom companies. It is worth noting that the previous research focused on the telecommunications

industry, while this research focused on comparative research focusing on two international airports in Kenya.

2.3.3 Market Potential Competitiveness

According to Ndolo's (2013) research on large audit firms in Kenya, ownership plays a significant role in determining the location policy of an organization. The research followed a positivist perspective with an explanatory and descriptive design. The target population consisted of 60 manufacturing firms in Kenya, and a census sampling method was employed, resulting in 120 respondents. Primary data was collected through questionnaires and analyzed using inferential analysis and descriptive statistics.

However, it is important to note that the findings from this research could not be applied my research as it focused on audit firms in Nairobi County. The research revealed that audit firms in Kenya adopt various location policies to pursue market superiority. The research identified brand attributes, location, pricing and timeliness as important policies in the competitive audit market. It is worth mentioning that the previous research focused on audit firms, while this research focussed on two international airports in Kenya.

Kalafatis (2016) on their journal article on the impact of location Strategies on Corporate Performance, an exploratory study conducted on the U.S. based firms observed that the pursuit of location strategies had effect on their firms performance. “Top of the range’’ location strategy appeared to be the most preferred strategy for those service firms that are well known for their pursuit of the middle- and upper class target respondents. The research employed an

explanatory research design and targeted 421 section heads in US-based firms. Stratified random sampling was used to select 264 respondents who completed a feedback form. Inferential and descriptive statistics were used for data analysis. However, the descriptive design used in the research does not provide conclusive results due to the absence of statistical power. The research revealed that firms customized their operations to target specific groups and that locations policy played a key role in their overall market share and investment returns. That research was conducted on international platform focusing on U.S based firms, whereas this research was conducted in Kenya focussing on international airports in Kenya.

Ti Soutari's (2017) survey research in Australia examined the adoption of Porter's three "generic" strategies (focus, cost leadership, and differentiation) by educational institutions in relation to their physical location and performance. Questionnaires were used to collect data, and descriptive statistics were analyzed using SPSS version 24. Linear regression analysis and Pearson's correlation coefficient were employed to establish the relationship between the variables of interest.

The research concluded that educational institutions' success lies in having a coherent policy that enables them to position themselves in chosen markets and develop a competitive advantage based on cost management or differentiation, whether in cross-border operations or focused on specific target market segments. It is important to note, that research focused on Australian educational services, while this research focussed on international airports in Kenya. The previous research examined the relationship between

performance and physical location, whereas this research focusssed on the relationship between physical location and competitiveness.

Chibanda (2013) conducted research on strategic location and its relevance based on the experiences of British organizations. The research employed an explanatory and descriptive design, targeting British organizations in the UK. The sampling consisted of 2,555 scheme managers, and a simple random sample of 374 respondents was selected. The research focused on British organizations in the UK, specifically on emerging themes of strategic location, which created a research gap that this research sought to address. The findings revealed that the combination of internal and external environmental and organizational factors influences location strategy.

Gakenia (2015) evaluated the impact of planned physical location on the performance of local airports in Kenya. The research's independent variable was the strategic physical location, and the dependent variable was the presentation of regional airports in Kenya. The current research brought out the relationship between physical location and competitiveness of the airports, basing its argument on international airports in Kenya. The research utilized a descriptive survey with an explanatory design, specifically conducting a cross-sectional review that targeted 381 workers. From this population, a sample of 170 respondents was selected using stratified random sampling. Data collection was facilitated through self-administered questionnaires, and the collected information was analyzed using both inferential and descriptive methods.

The independent variable was strategic physical location, and the dependent variable was the performance of regional airports in Kenya. This presented a research gap since it did not address the aspect of competitiveness. This research sought to close that gap by exploring the relationship between physical location and competitiveness of international airports in Kenya.

2.4 Summary of Literature Review and Research Gaps

The purpose of this research was to address the gaps identified in previous researches and explored the various associations with the proposed objectives and findings. These researches revealed several research gaps, including contextual, methodological, findings, approach, and temporal gaps. Therefore, this research was essential in bridging these gaps. Notably, Chibanda (2013) investigated the factors influencing strategic location in business performance, while Gakenia (2015) focused on planned physical location and performance. Kalafatis (2016) examined the impact of strategic location on performance, and Kasubi (2014) explored the relationship between location policies and competitive advantage in local Kenyan airlines. Kilonzi (2015) investigated the use of physical location for sustainable competitive advantage in Safaricom Limited and Airtel Kenya. Muyo (2015) studied the organizational performance and strategic positioning of the top five oil companies in Kenya.

Ndolo (2013) examined locational policies adopted by major audit companies in Kenya, and Paloy (2016) analyzed the strategic location and competitiveness of Eindhoven and Rotterdam, The Hague Airports in the Netherlands. Additionally, Ti Soutari (2017) investigated the relationship between physical location and performance in Australian educational

institutions. However, none of these researches specifically addressed the physical location and competitiveness as a comparative analysis of international airports in Kenya, namely Jomo Kenyatta and Moi International Airports.

Table 2. 1: Summary of Research Gaps

Author	Research	Findings	Identified Gaps	The focus of the Current Research
Chibanda (2013)	Strategic location and planned relevance are emerging topics from British companies' experiences.	The research finding revealed that amalgamating external environmental and interior managerial factors prejudices planned location.	The research focused on what influences strategic location.	This research highlighted the result of physical location on the competitiveness of international airports in Kenya.
Gakenia (2015)	Effect of planned physical location on the presentation of local airports in Kenya.	The findings showed that strategic location strategies influenced the concert of the local airports in Kenya.	The research focused on planned physical location and performance	This research presented a comparative analysis of the two Kenyan international airports under research about the competitiveness brought by their location.
Kalafatis (2016)	Effect of location Strategies on Corporate concert (A case of U.S. Based Firms)	The findings clearly showed that the notion of location becomes essential to the triumph of firms' marketing strategies.	The research focused on a strategic location and its influence on performance.	This research assessed how Physical location influences the competitiveness of international airports in Kenya.
Kasubi (2014)	Competitive advantage and location strategies of the local Kenyan airlines.	The findings showed that location strategies significantly impacted the competitiveness of the airlines.	This research showed location policies their competitive gain.	This research focused on how Physical location relates to the competitiveness of international airports in Kenya.
Kilonzi (2015)	Physical location to attain maintainable	The results were that cutting-edge knowledge	Used case research; thus, fallouts cannot	This research focussed the consequence of physical location

	competitive gain at Safaricom Limited and Airtel Kenya.	aided Safaricom Limited and Airtel Kenya in attaining a competitive advantage.	be helpful to the international airports in Kenya, and also, the independent variable studied dwelt more on technology.	on the competitiveness of international airports in Kenya.
Muya (2015)	Organizational performance and strategic positioning of the best five oil companies in Kenya.	The findings showed that strategic positioning was significant to the organization's performance.	The research was on the association between strategic positioning and managerial performance.	This research focused on how physical location influences competitiveness of international airports in Kenya.
Ndolo (2013)	Location policies adopted by huge audit companies in Kenya	The research findings showed that companies in auditing focus on product characteristics, time, and site as a policy.	The research was on the influence of location strategies in large audit firms.	This research focused on the physical location of international airports and their competitiveness in Kenya.
Paloy (2016)	Strategic location and competitiveness of Eindhoven and Rotterdam the Hague Airport in the Netherlands	The finding showed that planned location had a positive importance association with competitiveness.	The research was conducted in Airports in the Netherlands	This research focused on the influence of physical location and competitiveness of international airports in Kenya
TiSoutari (2017)	Physical location and recital in the Australian services of education	Research findings showed that the key to educational institutions'	The research focused on the physical location and	This research focused on the influence of Physical location and competitiveness of international

	institutions.	achievement is to contain a coherent policy that enables the organization to place itself inside the selected markets and erect a competitive posture.	performance of educational services institutions in Australia.	airports in Kenya.
Uche(2017)	Assessment of the role played by the supply of labour in performance of Ghanaian international Airports	The findings indicated that an adequate labour supply promoted their airports' performance.	The research focused on the labour supply in the performance of international airports in Ghana.	This research concentrated on competitiveness brought about by the physical location of international airports in Kenya.

2.5 Conceptual Framework

The conceptual framework for this research is illustrated in Figure 2.1, which gives the association among the research variables. This research aimed at finding the influence of physical location on competitiveness.

Independent Variable

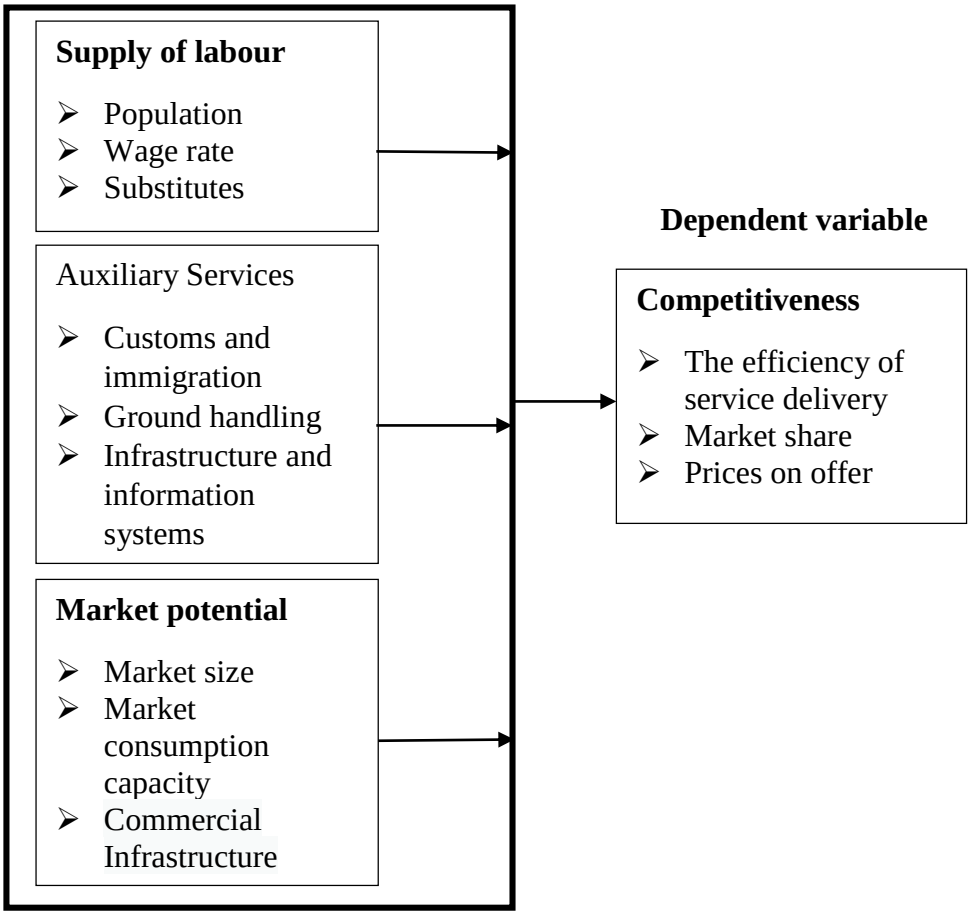

Figure 2.1: Conceptual framework: Researcher (2020)

Competitiveness is the dependent variable measured by the presence and efficiency of services on offer, market share, and prices. The independent variable of this research is the physical location, measured by the supply of labour, auxiliary services, and market potential.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter contains the methodology applied in the data collection and analysis. The section provides detailed information concerning the research design, the sampling design, the tools, the analysis method, and the ethical consideration.

3.2 Research Design

This research adopted a descriptive research design, and the questionnaire was an essential data collection tool (Kothari & Garg, 2014). The descriptive research design obtained information from the Moi International Airport and the Jomo Kenyatta International Airport regarding competitiveness to explain the benefits of their physical location and inform the policymakers on the importance of physical locations in building new airports and other structures crucial to national growth and stability. The descriptive design adopted the survey method, which used a questionnaire as the primary tool for data collection (Kothari & Garg, 2014).

3.3 Target Population

The target population refers to all the samples that enable the investigator to formulate inferences (Schindler & Cooper, 2014). This research's target population was employees from the Moi International Airport and Jomo Kenyatta International Airport. Therefore, 1450 and 1600 employees were singled out from the two airports respectively (International Air Transport Association (I.A.T.A. 2017) report. The target population comprised the senior

management, junior management, and non-management staff members as illustrated in Table 3.1.

Table 3. 1: Target Population

Population category management	Target Population (J.K.I.A)	Target population (M.I.A)
Senior management	45	41
Junior management	190	172
Non-management staff	1365	1237
Total	1600	1450

Source: Survey (2022)

3.4 Sample size and Sampling Procedure

Schinder and Cooper (2003) define a sample as a population representative. The sample size is used to evaluate the characteristics of the population as needed by the researcher. According to Kumar (2005), a sample is a chosen population segment to conduct research investigations likely to inform the research objectives. This research applied a stratified random sampling method where the population mentioned above was divided into homogenous groups(strata), and the representative was included in each stratum using simple random sampling (Neuman, 2003). Using stratified random sampling ensured that each key characteristic of the Moi International Airport and the Jomo Kenyatta International Airport was captured for analysis.

A target population of 1600 at J.K.I.A. and a sample size of 300 respondents was used. The people were stratified into three strata: the senior management,

the junior management, and the non-management staff. Samples sizes of the Strata were determined through a formula in form of an equation.

The following is the ideal sample size formula used in this research.

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

$\mathrm{n} -$ is the sample size

$\mathrm{N} -$ is the population

$\mathrm{e} -$ represents the estimated error provided in the model section above.

$\mathrm{n} = 3050/1 + 7.625$

$\mathrm{n} = 3050/8.625$

$\mathrm{n(sample\ size)} = 353$

3.5 Data Collection Instruments

The survey method was used in data collection, where the questionnaire was the primary data collection tool. The questionnaire contained structured closed-ended questions asking about the participant's bio-data and the respondents' responses to the various statements in the Likert scale. The questionnaire was administered to the J.K.I.A. and Moi international airport selected management and non-management employees through random sampling. The method was chosen randomly through their contact list, and a request note for participation was sent to the employees.

Also, the research objectives were made available to the administration of the Moi International Airport and the Jomo Kenyatta International Airport while requesting permission to conduct the research. The recruitment process

entailed briefing the respondents about the importance of this research and the required turnaround time for the dully filled questionnaires. The introduction process provided an opportunity to gauge the respondents' understanding of the questions and the entire process.

3.6 Reliability and Validity of the Research tools

3.6.1 Pilot Research

A mini-research that is done to test the correctness and suitability of the research instrument before the actual research is undertaken is what is referred to as "piloting" (Best, 1981). The aim is usually to review the suitability of the research tool and to establish it's reliability and validity in achieving the objectives of this research. According to Kaliyadan & Kulkarni (2019), a pilot sample size is estimated to be 5% to 15% of the sample size. The research tool, the questionnaire, was piloted at the Jomo Kenyatta International Airport, where two senior management employees, six junior management employees and nine non-management employees were used in the pilot research. This means seventeen respondents estimated using 5% of the sample size were selected. The pilot reseach was successful and any discrepancies and deficiencies experienced were corrected. The respondents in this pilot study were not included in the final research.

3.6.2 Validity

Validity is essential to any research since it ensures that the results are valid and the test is achieves the expected results (Winterstein & Kimberlin, 2008). Robson (2011) argues that the validity of the investigation tool assesses the

extent to which the research attains what it is planned achieve. Validity basically means that you measure what is intended to be measured (Field, 2005). Validity seeks to explain how well the collected data covers the actual area of investigation (Ghauri and Gronhaug, 2005). It is the degree to which the results are truthful and therefore it requires research instrument (questionnaire) to correctly attain the expected outcome (Pallant 2011). Several kinds of validity exist (Streiner et al., 2015).

These include face validity, content validity, and construct validity. Face validity refers to the subjective evaluations of the research on the significance and presentation of the gauging tool as to whether the device's content seems unambiguous, sensible, clear, and relevant (Oluwatayo, 2012). Construct validity tests the level of hypothetically resultant hypotheses about the environment of fundamental constructs or variables (Pallant, 2011).

Experts familiar with the airports operations and regulations were engaged in evaluating the questionnaires so as to determine their suitability in achieving the intended results.

3.6.3 Reliability of the Research Instrument

Reliability refers to the dimensions that provide consistent outcomes with equal values (Blumberg et al., 2005). Schindler and Cooper (2006) define reliability as steadiness when answering research queries. It measures the steadiness, repeatability, trustworthiness, and precision of the research (Chakrabartty, 2013). A common measure of reliability is the use of Cronbach's Alpha. It typically ranges between 0 and 1, where 1 indicates absolute internal consistency [Tavakol & Dennick 2011]. This research

measured reliability through Cronbach's alpha, establishing internal consistency by showing how closely related items were within the group. The following results were obtained.

Table 3. 2: Item-Total Reliability Statistics

Item-Total Statistics				
	Scale Mean if item related	Scale Variance if item related	Corrected Item-Total Correlation	Cronbach's Alpha if item is related
What is your gender	98.1?550	545.117	.030	.943
Indicate in youge	96..3100	532.506	.268	.943
Which airport do you work	9?7.9600	539.476	.268	.942
The number of years of service at the airport	95.5800	521.632	.378	.942
The highest level of education attained	96.6650	531.279	.267	.943
There is high number of expert labour in this airport than in other international airports in Kenya.	96.3550	505.115	.674	.939
The wage rate at this airport is higher than in other international airports in Kenya.	96.1650	512.068	.662	.939
A high population of professional, skilled, and semi-skilled people lives near this airport.	96.0250	497.150	.836	.937
Several higher research institutions teach aviation and airport-related studies near this airport.	95.8050	496.067	.289	.954
This airport invest more in research and development other airports in Kenya.	95.350	512.588	.706	.939
This airport has flexible working hours, which reduces employees turnover	95.6600	496.427	.405	.946
The airport provides employees with intrinsic and extrinsic rewards, which encourages motivation	95.8800	502.337	.746	.938

The airport employees work hard to sustain high level of living in city center compared to other airports in Kenya	95.7850	503.446	.717	.939
Customs and immigration auxiliary services in and near this airport are more developed than in airports in Kenya.	95.8200	490.842	.919	.936
Auxiliary services like communication, IT, and other computer-based systems are more advanced in the towns and estates around this airport than in other airports in Kenya	95.8050	491.655	.906	.936
The Airport enjoys high-security services from the security agencies within and around the airport.	95.7000	501.638	.892	.937
Ticketing, customer service, and lounges, among other auxiliary services at this airport, are the best	95.9350	517.518	.602	.940
Other critical auxiliary services like hospitals, sports facilities like international stadia and government offices are available near this airport	96.2550	504.935	.824	.938
There is a high population growth rate around the airport of academicians, business people, and local tourists who form a bulk of potential airport market clientele.	95.8600	499.719	.846	.937
This airport attracts a large number of both local and international aircraft that land and take off daily.	96.1600	491.251	.896	.936
Many residents around this airport use air transport for long distances.	95.7450	502.915	.834	.938

This airport attracts a large number of foreigners and diplomats as travellers.	95.0350	539.099	.149	.943
This airport is the preferred link or gateway to other countries.	96.0050	500.206	.904	.937
Several parastatals and private companies near this airport use the airport services.	95.9250	510.050	.710	.939
The airport has advanced and high-quality infrastructure and security systems	96.0600	493.795	.848	.937
The airport has a higher market share regarding the overall air traffic in Kenya.	95.7350	505.261	.746	.938
The airport attracts those who can be classified as the best-trained aviation services employees.	95.7850	508.391	.719	.939
The airport has a better economic outlook regarding revenues generated, foreign direct investments, and per capita of employees.	96.0550	494.585	.916	.937

Source: Survey (2022)

Table 3. 3: Reliability Statistics

Reliability Statistics	
Cronbach's Alpha	Number of Items
0.942	29

Source: Survey (2022)

A Cronbach Alpha test of 0.90 and above is considered excellent (Bujang, Omar & Baharum, 2018); therefore, this research data displayed very good levels of internal consistency as indicated for each item in table 3.4.

3.7 Data Collection Procedure

An introductory letter from the university was presented to the human resource departments of the two international airports so as to be granted the permission to access the facilities, engage the respondents, and access the documents needed for review. The sampled senior management staff, junior management staff and non-management staff at both the J.K.I.A. and Moi international airports were briefed on the importance of the research after which they were given questionnaires with both structured and semi-structured research questions.

The researcher shared the questionnaires with the respondents as soft copies through their respective emails, which they had provided during the introduction and physical engagement. The respondents were requested to complete the questionnaires within two weeks and share the results with the researcher through his email. An acknowledgment was sent to each respondent after submitting the completed questionnaire.

3.8 Data Analysis and Presentation

The information gathered was analyzed by a Statistical package for Social Sciences using inferential and descriptive statistics. The descriptive analysis was presented in the form of percentages, central pattern calculation and frequency distribution. Also, information was presented in tables and graphs. The research used multiple linear regression analysis to analyze the competitiveness of the Moi international airport and Jomo Kenyatta international airports in Kenya based on their physical location. The coefficient of regression variance was used to assess the effects of the

independent variables on dependent variables by the researcher using the R^2(a coefficient of determination). The kind of regression that was employed in the analysis used the model below;

$$Y = \beta 0 + \beta 1 X 1 + \beta 2 X 2 + \beta 3 X 3 e \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where;

$Y =$ competitiveness

$X 1 =$ Supply of labour

$X 2 =$ Market Potential

$X 3 =$ Auxiliary services

$\beta =$ constant term

$e =$ term Error

$\beta 1 - \beta 3 =$ correlation coefficients $X 1 - X 3 =$ Independent variables

3.9 Ethical Considerations

Ethical considerations are essential since they ensure that the research practices and principles are within the recommended guidelines (Savulescu & Saunders, 2008). The ethical considerations provided herein worked to maintain academic and scientific integrity throughout this research. The researcher upheld ethics by receiving authorization for data collection from Kenyatta University, Jomo Kenyatta International Airport and Eldoret international Airport. Moreover, a research license was sought from NACOSTI.

The guidelines effectively enhanced research validity and protected the respondents' rights. In this research the first ethical consideration was voluntary participation.

The respondents were free to opt-in and out of the research at any moment. The second ethical consideration was informed consent, where the respondents were informed of the risks and benefits of this research. The respondents were assured that the information derived from this research was entirely for academic purposes only and that no information would be shared with third parties without their approval.

Also, the respondents were notified that the management could not disclose or use the information they provided without consent. Another ethical consideration in this research was anonymity, where respondents' identities and sensitive information remain anonymous. Finally, confidentiality was vital throughout the research, where information was privately handled without linking with another form of data. Also, the participant was assured that no potential harm was associated with the data collection method interms of psychological, social, or physical harm. Again, this research has avoided all forms of research misconduct and plagiarism as stipulated by Kenyatta University.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.0 Introduction

This chapter presents the analyzed data with its interpretation. The chapter is presented in the form of charts and tables followed by an explanation of the findings and a link to the literature.

4.1 Response Rate

The response rate below shows the number of questionnaires administered and those returned. In respect to this, 300 questionnaires (to achieve equal representation) were issued to the non-management staff members, junior management, and senior management of the two international airports in Kenya (Jomo Kenyatta International Airports and Moi International Airports), as shown in Table 4.1

Table 4. 1: Response Rate

Response Rate	Frequency	Percent
No of Questionnaires sent out	300	100%
Questionnaires returned	200	66.67%
Questionnaires not returned	100	33.33%

Source: Survey (2022)

Only 200 questionnaires were returned among the administered questionnaire, transitioning to a 66.67% response rate. The 200 questionnaires were correctly filled and contained information needed in the questions to support the aims and objectives of the research. Fincham (2008) conducted a research that examined the survey standards and the author published that a survey response

rate of 60% and above is the best fit for any research. As a result, this research response rate is significant in supporting the research aims and objectives.

4.2 Demographic Characteristics of the Respondents

The Jomo Kenyatta International Airport and Moi International Airport employees' demographic characteristics such as age, gender, level of education and years of services are presented below. According to Berger & Schneck (2019) bio data is historical data that profile the respondents and help in making the judgment that links the respondent's behavior with the nature of the investigation. In this regard, this research majored in age, gender, years of service, airports they work for and the highest level of education as shown in the graphs.

4.2.1 The Respondents Gender

66% of the respondents were male, while 34% were female.

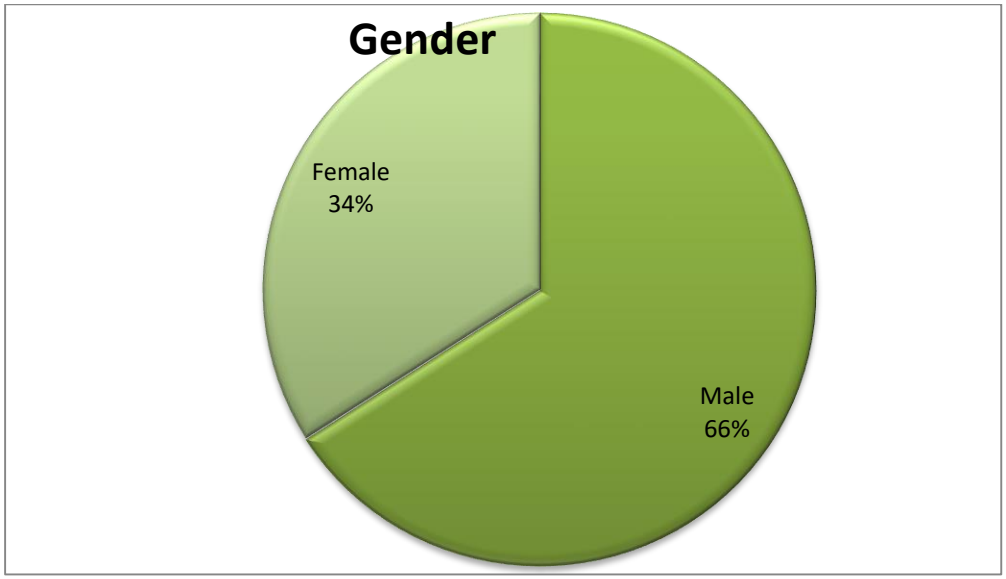

Figure 4. 1: Gender

Source: Survey data (2022)

4.2.2 Age

The following is a chart of the respondents' age as obtained from the data.

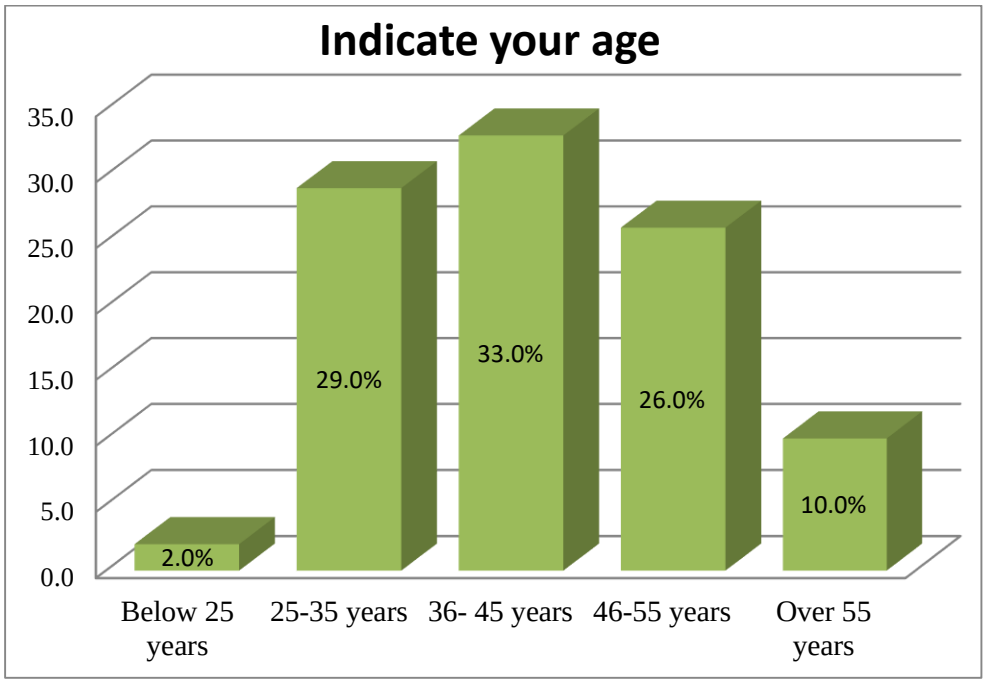

Figure 4. 2: The Respondents' Age

Source: Survey (2022)

In figue 4.3, most of the respondents, amounting to 88%, were between 25 years to 55 years. A further breakdown indicates that 33% were between 36-45 years, followed by 29% at 25-35 years. 10% of the respondents were over 55, while a minority, 2%, represented respondents below 25 years. Shackleton (2016) states that 20-45 years is the most productive age group.

4.2.3 The airport you work in

The following chart breakdowns the sample size population depending on the airport the respondents were working in.

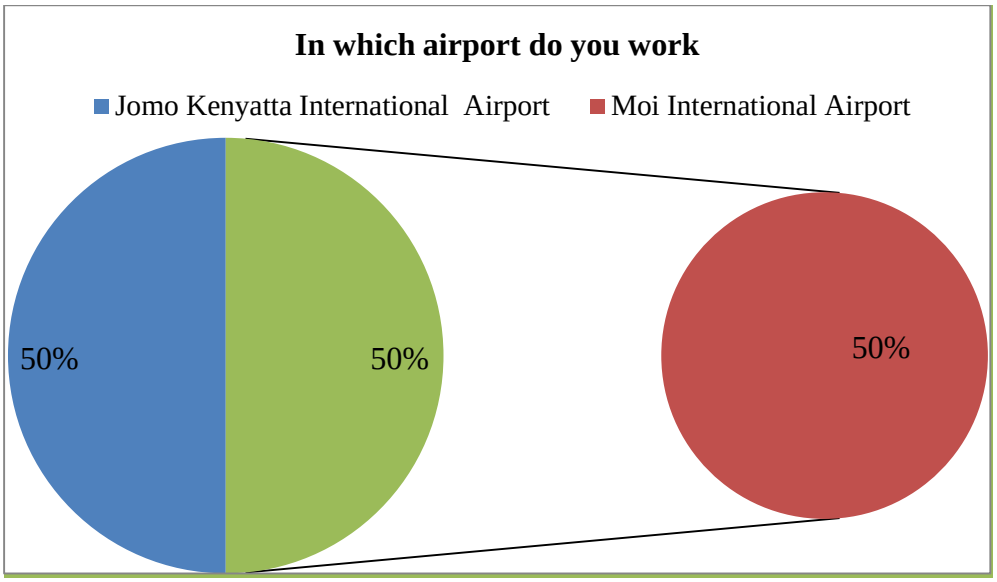

Figure 4. 3: The Airport you work in

Source: Survey (2022)

The total repondents from both Moi International airport and Jomo Kenyatta International airport were divided into two. That is 50% from JKIA and 50% from Moi International airport.

4.2.4 The number of years of service at the airport

77% of the respondents have served their airports for 6 to 20 years. Specifically, 27% of the respondents have served from 6 years to 10 years, while 22% of the respondents have served from 11 years to 15 years. 28% of the respondents have served from 16 to 20 years, while 9.5% have served for over 20 years. According to Shackleton (2016), the longer the years of service, the more experience in the given field. Therefore, 77% of the respondents had served long enough to provide accurate responses for this research.

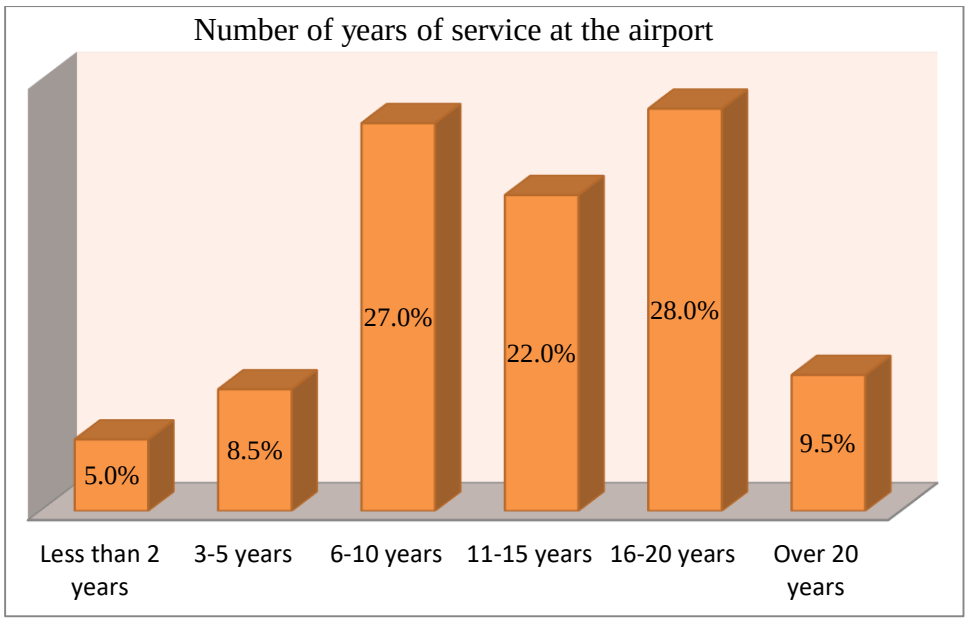

Figure 4. 4: The Number of Years of Service at the Airport

Source: Survey (2022)

4.2.5 The highest level of education attained

The majority of the respondentss, 33.5%, had attained undergraduate degrees as the highest level of education, 27% had masters degrees while 28.5% had PhDs as the highest level of education. Only 11% of the respondents were of certificate level. These finding indicates that 89% of the survey respondents had attained either an undergraduate degree, a masters degree or a PhD. According to the Ministry of Education (2022), university qualification is the highest level of education in Kenya, which constitutes a degree, a masters or a PhD. Therefore, most respondents had the capacity to read and understand the requirements of the questionnaire and to answer appropriately.

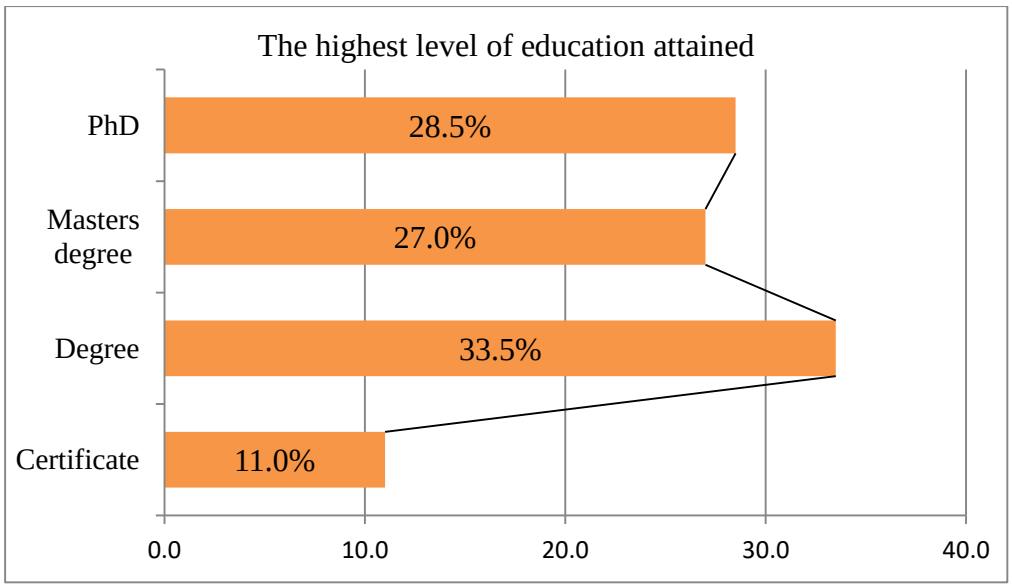

Figure 4. 5: The Highest Level of Education Attained

Source: Survey (2022)

4.3 Descriptive Statistics

According to Lawless & Heymann (2010), descriptive statistics provide, describe, and calculate research data meaningfully, logically, and efficiently. The advantage of using descriptive statistics in this research was to present the data as it was at the Moi International Airport and Jomo Kenyatta International Airports by highlighting the actual trend of supply of labour, presence of auxiliary services and the market potential.

4.3.1 Supply of labour

The following are the descriptive statistics for the supply of labour. The data presented in Table 4.6 was derived from the data collected using the questionnaire attached in Appendix II Part B, which is a Likert scale describing how the supply of labour defined under physical locations directly implicates airport competitiveness. The results showcase the mean and standard deviation of each question under Part B. The higher the mean, the

stronger the statement of supply of labour in supporting its influence in the competitiveness.

Table 4. 2: Supply of Labour

Descriptive Statistics

Statements (Supply of labor)	N	Minimum	Maximum	Mean	Std. Deviation
The wage rate at this airport is higher than in other international airports in Kenya.	200	1.00	5.00	3.7400	1.19564
A high population of professional, skilled, and semi-skilled people lives near this airport.	200	1.00	5.00	3.8400	1.27378
Several higher education institutions teach aviation and airport-related studies near this airport.	200	1.00	5.00	3.7950	1.28891

This airport invests more in research and development than other airports in Kenya	200	1.00	5.00	3.9250	1.27179
This airport has flexible working hours, which reduces employees turnover	200	1.00	5.00	3.8250	1.45429
The airport provides employees with both intrinsic and extrinsic rewards which encourages motivation	200	1.00	5.00	4.1200	1.16722
The airport employees work hard so as to retain their jobs so as to sustain a high cost of living in the capital city compared to other airports in Kenya	200	1.00	5.00	4.1650	1.28297
Valid N (listwise)	200				

Source: Survey (2022)

This research sought to establish the influence of physical location on the competitiveness between the Moi International Airport and Jomo Kenyatta

International Airport and labour supply was one variable of interest influenced by physical location. In table 4.6 above shows the descriptive statistics of the responses. The higher the mean, the more respondents agreed with the statements.

Most respondents, on average (4.1650), supported the statement that labour supply in the capital city is higher than outside the city because most employees worked hard to retain their jobs so as to sustain the high cost of living there. According to Zhang, Wan & Yang (2019), the labour supply is higher in the capital city than in other small towns with large populations found in the capital. Large organizations in capital centres encourage people to migrate, leading to higher populations and thus people strive to meet the high cost of living in the towns (Zhang, Wan & Yang, 2019).

Therefore, because of its location, Jomo Kenyatta International Airport enjoys more labour supply than Moi International Airport. The motivation also highly supported statement at a mean (4.1200), where the respondents argued that city airports provide intrinsic and extrinsic motivation that attracts more employees than airports outside the city. According to Ryan & Deci (2020), intrinsic motivation refers to the desires of the employees' to achieve professional and personal goals while extrinsic motivation includes promotions and pay increments.

An organization that invests in intrinsic and extrinsic motivations enjoys outstanding employee performance and commitment at work (Ryan & Deci, 2020). Jomo Kenyatta International Airport, as discussed above, enjoyed more labour supply which transilates to increased operations and revenue. As a

result, the Jomo Kenyatta International airport enjoys the revenues to extend the intrinsic and extrinsic motivations to the employees maintaining sustainable and improved performances.

Growth and development was the third most supported statement at the mean (3.9250), where respondents argued that employees flock to airports that offer more space for research and development. Growth and development allow employees to upgrade existing knowledge and enhance their skills (Boerlijst, 2020). An organization that invests in growth and development offers training opportunities to its employees to inform them about the latest developments within the field (Boerlijst, 2020). As a result, employees acquire pride in ownership and commitment to accomplish short and long-term organizational goals (Boerlijst, 2020).

Comparatively, the Jomo Kenyatta International airport enjoys high revenues because of its physical location within the Kenyan capital and in return it possesses more resources to extend growth and development opportunities to the employees. This enables Jomo Kenyatta International airport to enjoy a consistent and highly qualified labour supply compared to the Moi International Airport. The population characteristics were also crucial in labour supply and on average (3.8400), great support was accorded to the high population of both skilled and semi-skilled professionals who live near the airports in major cities like Nairobi.

Flexibility was another issue affecting labour supply and the mean (3.8250) agreed with the statement that the airports in major cities accord their workers flexible working hours, reducing employee turnover. Finally, learning

institutions could also influence the labour supply since the mean (3.7950) supported the statement that there were several higher education institutions that teach aviation and airport-services oriented studies near airports in major cities like Nairobi.

According to Zhang, Wan & Yang (2019), a capital city like Nairobi where Jomo Kenyatta International Airport is suited, has a high prevalence of institutions of learning. The capital city's population enjoys various tertiary institutions which increases the professional skills and expertise needed in airport services. In this regard, the Jomo Kenyatta International Airport physical location is more strategic than that of Moi International Airport. It possesses the capacity to acquire a specialized and experienced task force, and thus the airport can quickly provide its employees with flexible working hours, which serves as a form of intrinsic motivation. Generally, labour supply in the Jomo Kenyatta International Airport is higher than in Moi International Airport because of the physical position of the Jomo Kenyatta Airport.

4.3.2 Competitiveness

The following is the descriptive statistics for competitiveness. The data presented in Table 4.7 was derived from the data collected using the questionnaire attached in Appendix II Part E, which is a Likert scale describing how competitiveness is influenced by physical locations. The results showcase the mean and standard deviation of each question under Part E. The higher the mean, the stronger the statement of competitiveness in reference to airport physical location.

Table 4. 3: Competitiveness

Descriptive Statistics

Statements: Competitiveness	N	Minimum	Maximum	Mean	Std. Deviation
The airport has advanced and high-quality infrastructure and security systems	200	1.00	5.00	4.0350	1.05800
The airport has a higher market share regarding the overall air traffic in Kenya.	200	1.00	5.00	4.0150	1.11399
The airport attracts those classified as the best-trained aviation services employees.	200	1.00	5.00	3.7950	1.15744
The airport has a better economic outlook regarding revenues generated, foreign direct investments, and per capita of employees.	200	1.00	5.00	3.9050	1.20967

Good auxiliary services, including roads, hotels, banks, roads, railways, insurance, hospitals, and information systems surround the airport.	200	1.00	5.00	4.0600	1.10567
Valid N (listwise)	200				

Source: Survey (2022)

This research aimed at assessing the comparative analysis of the competitiveness of Moi International Airport located in Mombasa, which is a small city, compared to Jomo Kenyatta International Airport located in Nairobi, the capital city of Kenya, and the higher the average, the higher the number of respondents that supported the statement.

Regarding competitiveness, the average (4.0600) supported the argument that good auxiliary services, including the roads, hotels, banks, railways, insurance, hospitals, and information systems surround airports in the capital.

According to Al Shawabkeh et al. (2022), capital cities are the heart of any nation where several operations and services occur. Capital cities attract huge populations and businesses that transition to increased places of consumption and production. Competition for economic opportunities is high in the capital cities where they turn to economy generating settlements that provide social amenities, jobs and growth (Al Shawabkeh et al., 2022). Therefore, major trading activities occur in the capital cities providing access to educational and business agencies (Al Shawabkeh et al., 2022). Tertiary and higher learning

institutions, hospitals, and businesses crowd in the city center (Al Shawabkeh et al., 2022).

Therefore, the physical location of the Jomo Kenyatta International Airport is strategically placed to enjoy the benefits of the social amenities and learning institutions compared to the Moi International Airport. The second-ranked statement was at (4.0350) with the argument that the airport in the capital has advanced and high-quality infrastructure and security systems. Also, on average (4.0150), respondents supported the statement that airports in the capital city enjoy a higher market share regarding the overall air traffic in Kenya. Other statements showcased that airports in the capital could be more competitive than minor cities. According to Ripken, Janssen & Knee (2019), capital cities have the best public infrastructure, including roads, bridges, rail, and airports.

Also, the cities have the best water infrastructure, including flood management, drainage systems, proper sewage, water resource management, and water supply, which promote the businesses in the capital (Rikken, Janssen & Kwee (2019). Also, power and energy infrastructures, including solar panels, gas pipelines, wind turbines, power stations, and power grids, are prevalent in major cities Rikken, Janssen & Kwee (2019).

In addition, capital cities enjoy telecommunication infrastructures such as WiFi services, broadband networks, and telephone networks (Den Hertog & Bilderbeek, 2019). Similarly, the political infrastructure including law institutions and good public security services such as defense and the police force are more established in capital cities (Den Hertog & Bilderbeek, 2019).

In addition, the education infrastructure including public training institutes, universities, public schools and the health infrastructures such as the subsidized health clinic and public hospitals are more and advanced in capital cities like Nairobi. Finally, the recreational infrastructures including the presence of natural reserves, historical sites, beaches, gardens, and public parks are found I or near the capital cities (Den Hertog & Bilderbeek, 2019).

All the mentioned infrastructures are essential for business operations since they provide essential employee services and connect the business to potential clients. In this respect, the Jomo Kenyatta International Airport is suited in the capital of Kenya, Nairobi, which is the center of most of the infrastructure mentioned above. As a result, the physical location of Jomo Kenyatta International Airport makes it more compared to Moi International Airport.

4.3.3. Market Potential

The data presented in Table 4.8 was derived from the data collected using the questionnaire attached in Appendix II Part D, which is a Likert scale describing how the market potential defined under physical locations directly implicates airport competitiveness. The results showcase the mean and standard deviation of each question under Part D. The higher the mean, the stronger the statement of market potential in supporting its influence of physical location in the competitiveness.

Table 4. 4: Market Potential

Descriptive statistics

Statements: Market Potential	N	Minimum	Maximum	Mean	Std deviation
There is a high population growth rate around the airport of academicians, business people, and local tourists who form a bulk of potential airport market clientele.	200	1.00	5.00	4.0850	1.05515
This airport attracts a large number of both local and international aircraft that land and take off daily.	200	1.00	5.00	4.0350	1.06746
Many residents around this airport use air transport for long distances.	200	1.00	5.00	4.0950	1.13243
This airport attracts a large number of foreigners and diplomats as travellers.	200	1.00	5.00	4.1450	1.16221
This airport is the preferred link or gateway to other countries.	200	1.00	5.00	3.9300	1.08211

Several parastatals and private companies near this airport use the airport services.	200	1.00	5.00	3.9100	1.07596
Valid N (listwise)	200				

Source :Survey (2022)

The market potential is another factor in the airport's competitiveness which also depends on the physical location. For instance, the Jomo Kenyatta International Airport is in Kenya's capital, Nairobi, while the Moi International Airport is in Mombasa, a little city in Kenya. Therefore, a higher mean indicates that more respondents agreed with the question, and a lower mean indicates fewer respondents agreed.

Predominantly, mean (4.1450) responses supported the argument that airports in the capital attract many foreigners and diplomats as travellers, expanding its market potential. In addition, the mean (4.0950) supported the statement that many residents around the airport located at the capital city use air transport for long distances compared to residents in the minor cities which projects a higher market potential. According to Chow, Tsui & Wu (2021), airports are the primary international tourist attraction locations for many regions, cities, or countries. Airports are access doors and actual gateways to the world since they serve as the center or a point of departure and arrival for travellers.

In addition, airports create crossroads where goods and passengers flow intensifies the economic activities within the airports. As a result, airports provide efficient platforms for exhibitions, hotels, offices, retail, and logistics.

International diplomats and business people tend to enter a nation after carefully considering its airport activities (Chow, Tsui & Wu, 2021). Therefore, an airport like the Jomo Kenyatta International Airport is better positioned to enjoy an inflow of diplomats and world leaders who expand its business compared to the Moi International Airport.

A mean of (4.0850) was obtained on the statement that there is a high population growth rate around the airports with high numbers of academicians, business people and local tourists who form a bulk of potential airport market clientele. Factors like the capital airport being a gateway to other cities were also observed throughout the research. In addition, a support of (3.9100) was given to the statement that several parastatals and private companies that are in the capital city use the airports facilities in some of their services and activities. As discussed earlier by Rikken, Janssen & Kwee (2019) airports in the capital city are endowed with educational institutions that provide an access point for individuals seeking employment or learning.

Rikken, Janssen & Kwee (2019) expounds on the capital's different infrastructures, such as learning institutions, businesses, and social amenities, which attract airport business in the capital compared to minor cities. In this regard, Jomo Kenyatta is positioned at the heart of Kenya's capital. Thus, it enjoys many businesses both public and private including parastatals which expand their operations by becoming a doorway that receives diplomats and world economic leaders.

4.3.4 Auxiliary services

The following shows the descriptive statistics for the auxiliary services. The data presented in Table 4.9 was derived from the data collected using the questionnaire attached in Appendix II Part C, which is a Likert scale describing how the auxillary services defined under physical locations and directly implicates airport competitiveness. The results showcase the mean and standard deviation of each question under Part C. The higher the mean, the stronger the statement of auxillary services in supporting its influence in the competitiveness.

Table 4. 5: Auxiliary Services

Descriptive Statistics					
Statements: Auxiliary services	N	Minimum	Maximum	Mean	Std. Deviation
Customs and immigration auxiliary services in and near this airport are more developed than in airports in Kenya.	200	1.00	5.00	4.1600	1.25390
Auxiliary services like communication, IT, and other computer-based systems are more advanced in the towns and estates around this airport than in other airports in Kenya	200	1.00	5.00	4.1500	1.23496

The airport enjoys high-security services from the security agencies within and around the airport.	200	1.00	5.00	4.2200	1.10803
Ticketing, customer service, and lounges, ground services among other auxiliary services at this airport, are the best	200	1.00	5.00	3.9350	1.08010
Advanced support services like housing, roads, high-end hotels, railway lines, banking, and insurance are available near this airport	200	1.00	5.00	3.8650	1.07356
Valid N (listwise)	200				

Source: Survey (2022)

Another factor that contributes to competitiveness is the presence of auxiliary services within the location of the airports, and as provided earlier, the higher the mean, the more the respondents supported the argument.

The majority of respondents (4.200) agreed that airports in the capital enjoy high-security services from the security agencies that operate within the localities of the airports. These are more prevalent in the capital than outside the capital. The second statement mean (4.1500) argued that auxiliary services like communication, Information Technology and other computer-based systems are more advanced in the estates and towns in the capital cities providing better auxiliary services to airports. Again, a mean of (3.9350) was obtained in agreement with the statement that ticketing, customer services, ground services and lounges are standard auxiliary services prevalent in the

airports within the capital city compared to other cities like Mombasa. In addition, an average mean of (3.8650) was obtained from the agreement that advanced support services like housing, roads, high-end hotels, railway lines, banking, and insurance are standard in the capital city compared to airports in other cities.

According to Rikken, Janssen & Kwee (2019); Chow, Tsui & Wu (2021); Den Hertog & Bilderbeek (2019); and Al Shawabkeh et al. (2022), the capital cities enjoy a lot of infrastructure, institutions, businesses, and social amenities. As a result, airport employees working in the capital airports have access to further education, growth, and development. In addition, the many businesses within the city provide the city airports with highly accessible logistics services. In this regard, the Jomo Kenyatta International Airport enjoys better and more established auxiliary services than the Moi International Airport.

4.4 Regression Analysis

Regression analysis is a statistical procedure that measures the relationship between two or many variables (Arkes, 2019). Regression analysis tests the dependent and independent variables' association (Arkes, 2019). It is a cause-and-effect statistical method where the independent value represents the cause, and the dependent value represents the effect (Arkes, 2019). In this research, the dependent variable is the competitiveness of the international airports while the independent variables are the labour supply, auxiliary services and market potential.

4.4.1 Model Summary

Empirical model

This research adopted a regression model to establish the relationship between the independent and dependent variables, as provided in figure 2.1 (conceptual framework). Statistically, a regression model contains the dependent variable (Y), the independent variable (x), and the unknown parameter (constant) (β). A Further breakdown of the regression model is provided below;

$Y = \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3e$ … … …

Where;

Y = Competitiveness,

X1 = Supply of labour,

X2 = Market potential,

X3 = Auxiliary services,

β =Constant term,

e = term error.

β1- β3 = correlation coefficients

X1 – X3 = Independent variables

The reliability of the proposed model was considered based on the reliability test obtained from the data. In this regard, the Cronbach alpha test provided the best measure to determine the internal consistency in the data in proving the research objectives.

A successful test for reliability and linear relationships qualified the data for further analysis to establish the research aim and objectives. This research applied a confidence interval as an estimate of variation of the statistical

measure. The confidence interval of 95% was deemed fit for this research, meaning an error of 0.05% was accounted for when testing for statistical significance.

Model Summary

Table 4. 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.988[a]	.975	.975	.117

Predictors:

a. (Constant), Labour supply

b. (Composite Variable), Auxiliary Services

c. (Composite Variable), Market potential

Source: Survey data (2022)

In table 4.10 shows the model summary obtained after running the independent and dependent variables using SPSS. The model summary provides the results of the association between the independent variable (Competitiveness) and the dependent variables (labour supply, auxiliary services, and market potential). In this case, the R-square provides the variation between the independent and the dependent variable, and the R-value is 0.988, which means a strong positive relationship exists between the labour supply, auxiliary services, market potential, and competitiveness. While R-square is 0.975, labour supply, auxiliary services, and market potential contribute 97.5% of airport competitiveness.

ANOVA[a]

The following is the results for the analysis of variance in regard to the regression model obtained.

Table 4. 7: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	105.874	3	35.291	2579.874	.000[b]
	Residual	2.681	196	.014		
	Total	108.555	199			

a. Dependent Variable: Competitiveness (Composite Variable)

b. Predictors: (Constant), Labour supply (Composite Variable), Auxiliary Services (Composite Variable), Market potential (Composite Variable).

Source: Survey data(2022)

In table 4.11 the ANOVA expounds on the regression test by providing the level of significance of the model in determining the outcome. The aim is to check the significance obtained based on the P-Value. In this regard, the significance is 0.000, less than the P-value of 0.05. Therefore, the results are significant, and the model accurately predicts that airport competitiveness depends on the labour supply, market potential, and auxiliary services which are all determined by the physical location. The P-value 0.000 obtained against the standard P-value of 0.05 indicates that all the independent variables significantly influence the competitiveness of the JKIA and the Moi International Airport based on physical location.

Coefficients[a]

The following present the research coefficients and the level of significance.

Table 4. 8: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.186	.060		3.102	.002	.068	.305
	Market potential (Composite Variable)	.538	.067	.549	8.012	.000	.406	.671
	Auxiliary Services (Composite Variable)	.320	.061	.306	5.213	.000	.199	.441
	Labour supply (Composite Variable)	.116	.032	.142	3.615	.000	.053	.179

a. Dependent Variable: Competitiveness (Composite Variable)

Source: Survey data (2022)

The coefficient table indicates each variable's strengths and magnitude in the model. The coefficient table helps in answering the research hypothesis. Statistically, at a 95% confidence level, the significance level should be less than 0.05. In this case, each variable, market potential, auxiliary services, and labour supply, has a 0.00 level of significance, indicating the strength of the

variables in predicting the outcome. From the coefficient table 4.12, the market potential is the most significant variable in determining the physical competitiveness of the two airports.

In this regard, the market potential of Jomo Kenyatta International Airport in the capital is more efficient than Moi International airport. The next factor is auxiliary services which seem to provide a 0.32 level of competitiveness of Jomo Kenyatta International Airport compared to Moi International Airport, and the labour supply at 0.116 level of competitiveness which places Jomo Kenyatta International Airport above the Moi International Airport. Therefore, the model derived from the data is as follows;

$$\text{Airport competitiveness (in terms of physical location)} = 0.186 + 0.538\ (\text{market potential}) + 0.320(\text{auxiliary services}) + 0.116(\text{labour supply}) + \varepsilon$$

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

5.1 Introduction

The following chapter presents the final section of this research. The chapter details the summary, conclusion, and recommendations of this research.

5.2 Summary and Conclusion

This research started by providing a deeper view of the global airline industry. Hanlon (2014) and Spirin, Zavyalov, & Zavyalova (2016) provided a broader review of how the world airline industry continues to grow, spearheaded by the concept of globalization and the need for competitive transportation. Also, Spirin, Zavyalov, & Zavyalova (2016) provided insights into sustainability and integrated transportation systems in the airline industry. Mwangi (2013) offered a local perspective on why the airport's strategic locations are crucial for airport growth and expansion. López, Faia & Bolea (2017) further discussed the airport physical location concept arguing how physical location promotes resource management, allocation, and decision-making.The following is a section describing the summary and conclusions from this research

5.2.1 Summary

The literature section was experiential in achieving every objective of this research. Significantly, the resource-based theory and the services marketing theory were used. The resource-based approach from Penrose (1959) unveiled the resource management concept for profitability, performance, and competitiveness. Services marketing theory was also crucial in this research

since, according to Lovelock(1993), the best approach to offering services is to understand customers' needs and devise effective strategies to achieve those needs. The service marketing and resource-based theories helped understand factors influencing airline industry competitiveness. The ability to strategically position an airport in a better location than another is essential in a resource-based theory.

The empirical research centered on the concept of the three variables of interest in this research as guided by (Uche 2017, Asamoah, 2017; Ogbeidi, 2012; Pleshko and Voronov, 2013; Nwoba & Abah, 2016; Kasubi 2014) discussed the issue of supply of labour and competitiveness in an attempt to understand the concept of labour supply and its importance for airport competitiveness. Also (Muya, 2015; Paloy, 2016; Kilonzi, 2015) comparatively discussed the auxiliary services and their influence on business competitiveness to help understand the airline industry concept. (Ndolo, 2013; Ti Soutari, 2017; Chibanda, 2013; Gakenia, 2015) discussed market potential and competitiveness to unveil the importance of market potential for airport competitiveness.

Basically, this research was comparative in nature and aimed at establishing the competitiveness of the Moi International Airport and the Jomo Kenyatta International Airport based on their physical location. Under the conceptual framework, the variables of interest in discussing the competitiveness of physical location were the auxiliary services, the market potential and labour supply. In this regard, the independent variables were the auxiliary services,

the market potential, and the labour supply while the dependent variable was the competitiveness. This research undertook a descriptive design.

A structured questionnaire was the primary data collection tool where the bio-data and Likert scale detailing statements that supported the independent variables were of interest. A stratified random sampling technique was used to reach out to the calculated sample of 300 (out of 353 sample size proposed) respondents in the senior level management, junior level management and non-management employees. The engagement was through the respective human resource departments and the respondents were briefed about the research objectives, ethical considerations regarding confidentiality, informed about consent and respondents' privacy was communicated. The collected data was analyzed using SPSS version 21, and the descriptive and regression models were established.

A response rate of 66.67% was found, and a reliability test of 0.98 was also established.

66% of the respondents were male, while 34% were female. In addition, 88% of the respondents were between 25 and 55 years which according to Shackleton (2016) can be concluded that most of Jomo Kenyatta International Airport employees and Moi International Airport employees are within the most productive age group. 89% of the respondents had an undergraduate degree, a Masters degreee or a PhD. According to the Ministry of Education (2022), university education is considered the highest level of learning in Kenya. Therefore, these respondents possessed the right educational qualifications which enabled them to fill the questionnaire competitively.

5.2.2 Specific objective I: Effect of labour supply on the competitiveness of the J.K.I.A and the Moi International Airport.

Under labour supply, (4.1650) was the highest mean which supported the statement that labour supply in the capital city is higher since employees work hard to sustain their jobs so that they can to handle the high cost of living prevalent in the city. Also, motivation was a crucial factor influencing labour supply between the Jomo Kenyatta International airport and Moi International Airport, supported by a mean of (4.1200). Opportunities for growth and development were established as factors influencing labour supply backed by a mean of (3.9250).

Population characteristics such as the proliferation of both skilled and semi-skilled professionals in the capital city potentially influenced the competitiveness of J.K.I.A against that of Moi International Airport. The highest supported statements that influenced competitiveness was the mean of (4.0600) which accounted for the presence of auxiliary services including and not limited to roads, hotels, banks, railways, insurance, hospitals, and information systems in the capital city potentially influenced the higher competitiveness of JKIA against that of Moi International Airport.

5.2.3 Specific objective II: Examine the influence of auxiliary facilities on the competitiveness of the J.K.I.A and the Moi International Airport.

Infrastructure and technology with a mean of (4.0150) influenced the higher competitiveness of JKIA. Statements supporting market potential were the high presence of foreigners and diplomats passing through JKIA with a mean of (4.1450) followed by a close mean of (4.0950) which supported the

statement that dwellers in capital cities use air transport for long distances. Auxiliary services are crucial in physical competitiveness where a mean of (4.200) was a high-ranked statement that JKIA enjoyed more security because high-security agencies are located within.

Also, auxiliary services such as communication, I.T., and computer-based systems with a mean of (4.1500) influenced competitiveness. Other auxiliary factors that influenced competitiveness included ticketing, customer services, ground services and lounges with a mean of (3.9350).

5.2.4 Specific objective III: Effect of market potential on the competitiveness of the J.K.I.A and the Moi International Airport.

From the coefficient table 4.12, the market potential is the most significant variable in determining the physical competitiveness of the two airports. In this regard, the market potential of Jomo Kenyatta International Airport is more efficient than Moi International airport. The next factor is auxiliary services which seem to provide a 0.32 level of competitiveness of Jomo Kenyatta International Airport compared to Moi International Airport and the labour supply at 0.116 level of competitiveness which placed Jomo Kenyatta International Airport above the Moi International Airport.

Nolan (2014) provided more discussions on how competitive activities in the airport result from strategies, policies, goals, and objectives. Kenter (2013) mentioned competitiveness regarding human capital for noneconomic and economic growth. Hoffman (2012) discussed how value addition could lead to competitiveness while Park (2013) discussed how competitiveness ranks in

managerial, service issues, demand, facilities, and spatial issues in the airline industry. Nevertheless, the key objective of this research was to conduct a comparative analysis of the Jomo Kenyatta International Airport and the Moi International Airport to investigate their competitiveness based on their physical location.

5.2.5 Conclusion

The comparative analysis of competitiveness between the JKIA and the Moi International Airport prompted the investigation of the relationship between independent and dependent variables through regression analysis. An R-squared value of 0.975 was obtained which showed a strong relationship between the independent variables (labour supply, market potential, and auxiliary services) against the dependent variable (competitiveness). The ANOVA table 6 expounds on the regression test where the significance of 0.000 was achieved against the standard P-value of 0.05. Therefore, the results are significant and the model accurately predicted that airport competitiveness depends on the labour supply, market potential, and auxiliary services based on the airport's physical location.

5.3 Recommendations

This research makes the following recommendations.

5.3.1 Auxillary services

First, the policymakers should evaluate the competititvess of the physical location when building or establishing a new airports. The authorities and the airport administrators must deliberately improve the auxiliary services within

and without the airports so as to boost their competitveness. Collaborate with airlines, local authorities, tourism boards, and other stakeholders to align strategies and create a supportive business environment.Engage in public-private partnerships to share resources and expertise. Continuously monitor and optimize airport operations to enhance efficiency. Implement technology-driven solutions for baggage handling, aircraft turnaround, and other critical processes.

5.3.2: Labour supply

Authorities should deliberately delocalize the training institutions and provide quality training targeting labour supply to airports outside the capital city. Also, incentives like tax exemptions, subsidies among others can be given to investors who are willing to invests around the airports that are away from the capital so as to create the required traffic and necessities around these airports. Train staff to deliver exceptional customer service, addressing passenger needs and concerns promptly. Implement feedback mechanisms to gather insights from passengers and continuously improve services.

5.3.3 Market Potential

Authorities should Embrace innovative technologies such as artificial intelligence, Internet of Things (IoT), and biometrics to enhance security and efficiency.Implement smart airport solutions for real-time information sharing and improved operational decision-making. Prioritize safety and security measures to ensure the well-being of passengers and maintain compliance with

international aviation standards.Implement cutting-edge security technologies for both passenger screening and infrastructure protection.

5.4 Suggestions for Further Research

Further research on the relationsip between physical location and competitiveness of the local airports will fill that research gap. The research was conducted on Kenyan international airports, thus creating a research gap on other African international airports. Also, further research needs to be done on local airports' physical location and competitiveness. Future research could explore the impact of remote work trends on airport labor dynamics, understanding how airports strategically adapt to the changing nature of work. Additionally, an exploration of the evolving market dynamics, considering the aftermath of the COVID-19 pandemic and shifts in consumer behaviors, is crucial for updating our understanding of market potential in the aviation industry.

Moreover, the influence of technological advancements on auxiliary services and how smart airport technologies reshape the competitive landscape should be a focal point for future investigations. Understanding how airports leverage digital solutions and sustainable infrastructure for competitive advantage is imperative for informed decision-making in the contemporary aviation environment.

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APPENDICES

Appendix I: Letter of Introduction

Dear Respondent,

RE: REQUEST TO COLLECT INFORMATION

I am a learner at Kenyatta University carrying out a research on the "physical location and competitiveness of an international airport: a comparative research of Jomo Kenyatta international airport and Moi international airport in Kenya." You have been chosen as part of the contributors to this research, and I ask for your support in completing the attached opinion poll. Your data will be employed exclusively for academic functions and with strict secrecy.

Thank you.

LAWRENCE MURAGE NGUU

Appendix II: Questionnaire

Kindly fill out the opinion poll as sincerely as possible. It is meant to collect data on "Physical Location and Competitiveness of an International Airport: A Comparative Research of Jomo Kenyatta International Airport and Moi International Airport in Kenya." Put a tick (√) or fill in the spaces provided as appropriate. Your comebacks will only be treated with the highest privacy for this educational report. I thank you most genuinely for your contribution.

Signature: ---------- Date: ----------

PART A: BACKGROUND INFORMATION

What is your gender?

Male [ ]

Female [ ]

Kindly indicate your age bracket

Below 25 years [ ] 25 - 35 years [ ] 36 – 45 years [ ]

46 - 55years [ ] Over 55 years [ ]

In which airport do you work?

Jomo Kenyatta International Airport [ ]

Moi International Airport [ ]

The number of years of service at the airport.

Less than 2 years [ ] 3-5 years [ ] 6-10 years [ ]

11-15 years [ ] 16-20 years [ ] Over 20 years [ ]

The highest education level attained

Certificate [ ] Diploma [ ] Bachelor's Degree [ ]

Master's Degree [ ] PhD. [ ]

Other [ ], please specify…….

What is your job title.....?

PART B: SUPPLY OF LABOUR

The following statements relate to how the supply of labour contributes to competitiveness. By use of the provided scale, show your point of the accord. Rate on a scale of 1-5 Where: 1. Not at all: 2 strongly Disagree 3. Disagree, 4. Agree 5. Strongly Agree

Nos.	Statement(Supply of Labour)	1	2	3	4	5
1	There is an elevated insist for expert labour in this airport than in other international airports in Kenya					
2	The wage rate at this airport is higher than in other international airports in Kenya.					

3	A high population of professional, skilled, and semi-skilled people lives near the airport.					
4	Several higher research institutions teach aviation and airport-related studies near this airport.					

PART C: AUXILIARY SERVICES Indicate with a (tick) in the spaces provided.

The following statements relate to how auxiliary services to competitiveness. By use of the provided scale, show your level of the accord. Rate on a scale of 1-5 Where: 1. Not at all: 2 strongly Disagree 3. Disagree, 4. Agree 5. Strongly Agree

Nos.	Statement(Auxiliary Services)	1	2	3	4	5
1.	Customs and immigration auxiliary services in and near this airport are more developed than in airports in Kenya.					
2.	Auxiliary services like communication, IT, and other computer-based systems are more advanced in the towns and estates around this Airport than in other airports in Kenya.					
3.	The Airport enjoys high-security services from the security agencies within and around the airport.					
4.	Ticketing, customer service, and lounges, among other auxiliary services at this airport, are the best.					
5.	Advanced support services like housing, roads, high-end hotels, railway lines, banking, and insurance are available near this airport.					

PART D: MARKET POTENTIAL

The following statements relate to how the market contributes to competitiveness. Using the scale given, show your level of agreement. Rate on a scale of 1-5 Where: 1. Not at all: 2 strongly Disagree 3. Disagree, 4. Agree 5. Strongly Agree.

Nos.	Statement (Market Potential)	1	2	3	4	5
1.	There is a high population growth rate around the airport of academicians, business people, and local tourists who form a bulk of potential airport market clientele.					
2.	This airport attracts a large number of both local and international aircraft that land and take off daily.					
3.	Many residents around this airport use air transport for long distances.					

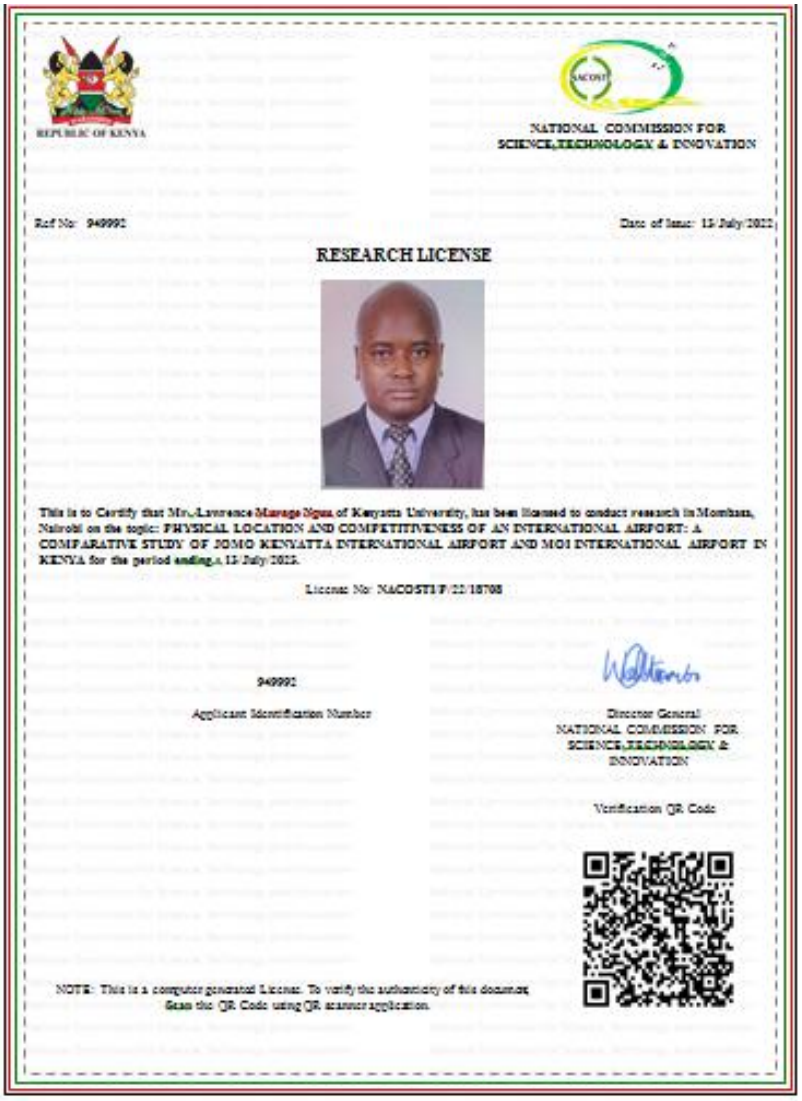
4.	This airport attracts a large number of foreigners and diplomats as travellers.					
5	This airport is the preferred link or gateway to other countries.					
6	Several parastatals and private companies near this airport use the airport services.					

PART E: COMPETITIVENESS

The following statements relate to competitiveness. Using a scale given, designate your level of the accord. Rate on a scale of 1-5 Where: 1. Not at all: 2 strongly Disagree 3. Disagree, 4. Agree, and 5. Strongly Agree.

Nos.	Statement (Competitiveness)	1	2	3	4	5
1.	The airport has advanced and high-quality infrastructure and security systems.					
2.	The airport has a higher market share regarding the overall air traffic in Kenya.					
3.	The airport attracts those classified as the best-trained aviation services employees.					
4.	The airport has a better economic outlook regarding revenues generated, foreign direct investments, and per capita of employees.					
5.	Good auxiliary services, including roads, hotels, banks, roads, railways, insurance, hospitals, and information systems surround the airport.					

APPENDIX III: Research Permit



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