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DETERMINANTS OF TOURISM DEMAND IN AFRICA 2005-2015: A PANEL DATA ANALYSIS

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DETERMINANTS OF TOURISM DEMAND IN AFRICA 2005-2015: A PANEL DATA ANALYSIS

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Determinants of Tourism Demand in Africa 2005-2015: A Panel Data Analysis

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ABSTRACT

This study identifies and analyzes the determinants of tourism demand in Africa from 2005 to 2015 using panel data regression analysis. We applied fixed-effects estimation to variables divided into three; economic, non-economic and institutional quality, and later run a regression including all variables. The results suggest that income level, health and political stability are the main factors affecting tourism demand in Africa while control of corruption was found not to be a significant variable to explain tourist arrivals. With respect to this, African countries' policy makers and persons of influence should put focus more on improving their infrastructure for a better income level, strengthen health services and facilities and to maintain political stability.

Keywords: Tourism demand, panel data, fixed-effects model, Africa

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ACRONYMS

ASEAN: Association of South East Asian Nations

CFTA: Continental Free Trade Area

COMESA: Common Market for Eastern and Southern Africa

EAC: East African Community

FTA: Free Trade Area

GDP: Gross Domestic Product

HIV/AIDS: Human immunodeficiency virus infection and acquired immune deficiency syndrome

ICT: Information and Communications Technology

LCDs: Least Developed Countries

MENA: Middle East and North Africa

MNRT: Ministry of Natural Resources and Tourism

ODA: Official Development Assistance

OECD: Organization for Economic Cooperation and Development

SABC: South African Broadcasting Cooperation

SADC: South African Development Cooperation

SARS: Severe Acute Respiratory Syndrome

SSA: Sub-Saharan Africa

UNCTAD: United Nations Conference on Trade and Development

UNESCO: United Nations Educational, Scientific and Cultural Organization

UNWTO: World Tourism Organization

USA: United States of America

USD: United States Dollars

VFR: Visits to Friends and Relatives

WTTC: World Tourism and Travel Council

CHAPTER ONE: GENERAL INTRODUCTION

1.1. BACKGROUND OF THE STUDY

Tourism has gained importance lately especially in the era of globalization where trade, movement of persons, workers and services is increasing every now and then. “Over the past six decades, tourism has experienced continued expansion and diversification, to become one of the largest and fastest-growing economic sectors in the world” (UNWTO, 2015). In his speech, UNWTO Secretary-General Tareb Rifai said “international tourism continues to grow above expectations, supporting economic growth in both advanced and emerging economies and bringing much needed support to job creation, GDP and the balance of payments of many destinations (UNWTO, 2013)”. “Political stability, attractive destinations and recognition of tourism as a key sector for socio-economic development, are some of the main factors that have contributed to the positive results of tourism in Africa in the past years” according to (UNWTO, 2013).

Realizing the importance of tourism, developing countries have lately put attention to this sector to better benefit from it. Africa, the continent with the most developing countries has not been left out either. (Bolwell & Weinz, 2008) found that “for one third of developing countries, tourism is already the main source of income and foreign exchange in 46 of the 49 LDCs”. They also emphasized that “tourism is the only service industry to show a positive balance of trade with flows from first world countries to developing countries exceeding those in the opposite direction by US$6.6 billion in the year 2000”. (Kester, 2003) found that “tourism has the potential to contribute significantly to economic growth and development in Africa”. (Christie, et al., 2013) said “tourism accounted directly or indirectly for one in every twenty jobs in sub-Saharan Africa in 2011”. “Africa is renowned for its spectacular wildlife, megaherbivores, the five big cats, diverse birds, and other species. But most people have seen these only on their televisions – visiting Africa remains a dream for so many” (Africa Development Bank, 2015).

Some hindrances to tourism may include high trade, communication and transport costs. Yet, these issues may be minimized through liberalization if countries are to benefit from each other. A study on Tanzania by (Kazuzuru, 2014) showed that "the number of arrivals kept on increasing from 1960 to the early 1970's, and later from 1986, when the country introduced trade liberalization policies until now". (Eita, et al., 2010) found that "regional trade agreements and regional integration promote tourism". (Lucy, 2014) mentioned that "EAC member states have the capacity for success in tourism through establishing strong political support for developing the industry collectively and attracting increased private investment to finance it". Dr. Charles Leyeka Lufumpa, applauded "strides made in visa facilitation and regional cooperation by the implementation of EAC and the SADC-KAZA visa between Zambia and Zimbabwe" (Africa Development Bank, 2015). To increase the region's accessibility, visitor numbers and visa spending, (Douglas, et al., 2012) backed up the idea of a single regional visa for the SADC nations. Further, (Eita, et al., 2010) concluded that "having a border with South Africa or being a member of SADC and the EU is associated with an increase in tourist arrivals in South Africa". Speaking of regional integration, efforts to facilitate free trade and tourism in Africa continue. COMESA-EAC-SADC launched a Tripartite Free Trade Area in 2015 and in March 2018, 44 African countries signed the CFTA in Kigali, Rwanda, completing negotiations on the continent-wide FTA that had begun in 2015. Negotiations are ongoing to finalize different agreements including Trade in Services, the agreement in which tourism is found.

In the Travel and Tourism Competitiveness Report 2017, five African countries were among the top 15 most-improved countries in Travel and Tourism Competitiveness Index. The same report shows that all regions' performances have increased, yet, Africa's growth is still lower than other regions. According to (Africa Development Bank, 2015), instead of just sustaining these growths, "what is equally important is sustained research and data generation to create the necessary knowledge base for effective decision-making, policy formulation and implementation in support of tourism, and hence economic growth and development". In this regard, this paper aims at analyzing the main determinants of tourist arrivals in Africa from 1996 to 2016 so that policy makers may formulate suitable policies to increase country performances hence better economic performance. The determinants will be analyzed using panel data regression for all African countries.

1.2. STATEMENT OF THE PROBLEM

Tourism is growing and is expected to stay the most leading service sector according to World Travel and Tourism Council. However, this growth would be more beneficial if developing countries fully tapped into their potential. Compared to studies on developed countries, it is evident that studies on tourism demand in developing countries, in this case Africa, are ignored especially regarding factors affecting the sector's demand. Nevertheless, developing countries cannot fully rely on studies carried out on developed countries given the differences in social, economic, political and geographical aspects. While we appreciate that some studies have been carried out, there is need for updated literature and possibly new determinants discovered. Sadly, some African countries have virtually no data. There is also a limitation of country-specific studies and statistics. This inconveniences policy makers and other people who need information on tourism in Africa. The researcher believes that studies and researches are a guide to making effective policies based on empirical evidence. In this regard, the researcher is willing to contribute in filling this gap so that policy makers are aware of what areas need more attention if their countries are to gain from this booming sector.

1.3. OBJECTIVES OF THE STUDY

The main objective of this study is to identify the main determinants of tourism demand in Africa. Our specific objective is to analyze the main determinants of tourism demand in Africa and understand their significance. Another objective is to understand Africa's tourism demand given the sector's potential. The researcher will also portray some implications based on the results. As a result, policy recommendations will be provided for future use.

1.4. RESEARCH QUESTIONS

- What are the main factors that determine tourism demand in Africa?
- Do both economic and non-economic factors affect tourism demand? To what extent?

- To what extent does institutional quality determine tourism demand?

1.5. SIGNIFICANCE OF THE STUDY

There are numerous studies on tourism demand in developed and emerging countries but limited studies focusing on developing countries. What makes this research outstanding is that it analyzes economic and non-economic determinants separately and later merged to get more comprehensive empirical results. Also, much emphasis is put on indicators of institutional quality which have very limited literature especially in Africa's case. While this paper serves to enlighten persons about tourism demand in Africa, the target population of this research is policy makers or persons of influence in their entities or countries, who need empirical evidence to justify their policy formulation, reform and implementation. As a matter of fact, policy recommendations have been provided from the researcher's point of view. Even more, this study is a contribution to the existing literature concerning tourism in Africa.

1.6. SCOPE OF THE STUDY

We will analyze panel data for 43 African countries from 2005 to 2015. We will utilize secondary data from reputable international organizations and other relevant sources.

1.7. LIMITATIONS

The unavailability of data limits the researcher from including some countries that would have otherwise served a great purpose given their interesting socio-political and economic aspects. Also, some years with captivating events were left out. In addition, proxies, instead of the actual variables that would have been more accurate, were exercised. All due to missing or insufficient data.

CHAPTER TWO: LITERATURE REVIEW

In this section, we will explain some tourism concepts, especially those repeatedly used in this research, we will also explore previous literature on tourism demand and its' determinants. Most concepts are defined by the UNWTO. Lastly, literature on tourism demand in the world and Africa will be discussed.

2.1. TOURISM CONCEPTS

A person is called a *tourist* (or visitor) if they spend a night in a country they don't reside in. it does not matter whether they are domestic, inbound or outbound tourists/visitors. (Mathieson & Wall, 1982) define *tourism* as "the temporary movement of people to destinations outside their normal places of work and residence, the activities undertaken during their stay in those destinations, and the facilities created to cater to their needs". (Cooper, et al., 1993) defined *tourism demand* from a geographic perspective as "the total number of persons who travel or wish to travel and use tourist facilities and services at places away from their places of work or residence". It is usually shown by how many people arrive in a country, thus it can also be called tourist arrivals which the UNWTO defines as "the number of tourists who travel to a country other than that in which they have their usual residence, but outside their usual environment, for a period not exceeding 12 months and whose main purpose is visiting other than an activity remunerated from within the country visited". It is vital however to note that data collection differs across countries and researchers should be careful when interpreting them. In the Tourism Satellite Account*, tourism sector* is defined as "the cluster of production units in different industries that provide consumption goods and services demanded by visitors".

2.2. DETERMINANTS OF TOURISM DEMAND

Numerous authors have used diverse techniques and approaches to determine what factors affect tourism demand. Some of the techniques include panel data analysis (Eilat & Einav, 2004; Massidda, 2012; (Surugiu, et al., 2011; Wakimin, et al., 2018; Walle, 2010; Yazdi, et al., 2017; Naudé & Saayman, 2005), gravity models (Fourie & Santana-Gallego, 2011; Cchorn, 2017; Culiuc, 2014; Karemera, 2000), simple/multivariate regressions (Garin-Munoz, 2009) cointegration procedures (Kulendran, 2001; Dseurbarry, 2002; Seetanah, 2006), pooled data analysis, structural equations, data mining, trends extrapolations, qualitative models, etc. (Surugiu, et al., 2011) mentioned that most researches on international tourism demand have utilized time series and regression techniques. "In using multiple regressions, problems of misspecification in addition to heteroskedasticity, multicollinearity and autocorrelation arise, these technical problems not being always considered or resolved" (Morley, 1993).

"Although tourism expenditure is likely to be more of interest for policy purposes than the number of visits, fewer studies have looked at this aspect" (Johnson & Ashworth, 1990). This is probably because it is harder to get accurate information concerning how much tourists spend than how many tourists have arrived in a certain destination, especially in countries where statistical facilities are still underdeveloped. In a study carried out by (Lim, 1997a; Lim, 1997b), 51% researchers utilized tourist arrivals and/or departures while 49% used tourist receipts and/or receipts from the 1960's.

(Lim, 1997) recapitulated the variables used in previous research determining tourism demand since the 1960's and outlined independent variables as follows from most-used to least-used variables. *Income* (84%); relative prices of goods and services (73%); *transportation cost* (55%); *dynamics* (26%), *competing destinations/goods* (15%); *seasonal factors* (14%); *marketing expenditure* (7%); m*igration and ethnic factors* (5%); b*usiness trade/travel* (5%); e*conomic activity indicators* (3%); various qualitative factors, (60%); and other factors, (27%). For many variables, the use of proxies is incorporated due to the absence of the exact variable in the data. The choice of proxies is usually determined by a variable which has the closest meaning to the variable being used.

Exchange rates (Garín-Muñoz, 2000; Lim, 2001; Eilat, 2004; Maloney, 2005, Seetanah, 2006; Phakdisoth, 2007; Kareem, 2007; Song, 2007; Johnson, 1990) are most often used as a proxy for price or sometimes used with the price variable. (Crouch, 1995) undertook a meta-analysis of tourism demand and found that "a number of studies modeled the effect of exchange rate on demand separately from the effect of destination prices on the basis that tourists may respond differently". He further explained that the it is most likely that the tourists are more concerned about exchange rates in a certain destination country than they are about prices. Yet, according to (Martin & Witt, 1987), “consumer price index, - with or without exchange rate- is a reasonable proxy for the cost of tourism and exchange rate alone is not acceptable”. We believe that basing on the researcher’s circumstances, targets and preferences, they may choose to use any variable that will serve the purpose of their research.

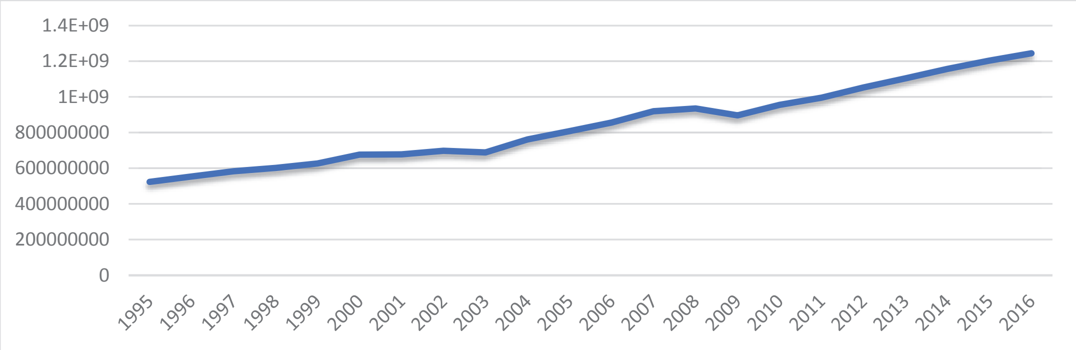
Transportation costs are mostly used in studies involving gravity model (examples above) however, (Crouch, 1995) showed a concern on the use of this variable and suggested that researchers interpret the results with attention. Other authors like (Witt & Martin, 1985) have used costs of travel between the origin and destination countries while (Little, 1980) utilized travel to competing destinations. “Dummies have also been used to cover special factors such as political disturbances, exchange rate controls, oil price shock, and special events e.g. Olympics, likely to have an impact on tourism demand” (Johnson & Ashworth, 1990).

To the best of our knowledge, carbon dioxide emissions (Wakimin, et al., 2018; Cho, 2010) are usually incorporated in studies involving Asia. On the other hand, only a few studies (Fourie & Santana-Gallego, 2011; Ghalia, 2016) utilized life expectancy at birth as a health variable. Instead, most have used prevalence/incidence of malaria (Naudé & Saayman, 2005) in the destination countries.

2.3. TOURISM DEMAND IN THE WORLD

Tourism is one of the most promising sectors looking at its trend in different countries across the world. In its report, (WTTC, 2018) mentioned that “tourism is one of the largest economic sectors that creates jobs, drives exports, and generates prosperity across the world”. With reference to the UNWTO, “international tourist arrivals grew 6.8%, the highest increase since 2009 global economic crisis and well above UNWTO’s long-term forecast of 3.8% per year for the period 2010 to 2020”.

Figure 1: International Tourist Arrivals-World



Source: World Development indicators

The (UNWTO, 2018) showed that "Africa and Europe grew above average". In its annual analysis, the (WTTC, 2018) showed that tourism accounted for "10.4% of global GDP and 313 million jobs, or 9.9% of total employment, in 2017". In the same year, Travel and Tourism directly contributed USD2,570.1 billion to GDP (i.e. 3.2% of total GDP) and was "forecast to rise by 4.0% in 2018, and to rise by 3.8% per annum from 2018-2028, to USD3,890.0 billion (3.6% of total GDP) in 2028". Also, "Visitor Exports generated USD1,494.2 billion (6.5% of total exports) in 2017 and was forecast to grow by 3.9% in 2018, and grow by 4.1% per annum, from 2018-2028, to USD2,311.4 billion in 2028 (6.9% of total)".

In their research, (Eita, et al., 2010) stressed that "tourism is important in the economic welfare of a country as it generates revenues required to finance infrastructure and other projects that promote economic development". They also uncovered that "the underlying factors explaining the nature and potential of demand for tourism are relatively similar across countries". (Middleton & Clarke, 2001; Naudé & Saayman, 2005) mentioned some main determinants of tourism demand and they "include factors such as demographic, geographic, socio-cultural, economic, technological, cultural and political". In more depth, (Dwyer, et al., 2002; Eugenio-Martin, et al., 2008) listed "income, relative prices of goods and services purchased by tourists at the destination, exchange rates, marketing expenditure to promote the country, economic activity indicators, mobility, government, media, communications and ICT which drive and set limits to the volume of a population's demand for travel", as what tourism determinants can refer to. Though the underlying factors of tourism demand are relatively similar across countries, the intensity of factors may vary across regions and countries depending on geographic, economic and socio-political aspects. For instance, (Díaz, et al., 2012) found that income is the critical determinant for tourism in Spain, the second world ranking country with most tourist arrivals as ranked by (UNWTO, 2017). "Interesting findings include a high-income elasticity as a source of the continuous double-digit growth rates in Chinese arrivals that Australia has experienced over the past two decades, together with relatively high total trip price elasticities for both short run and long run" (Pham, et al., 2017). According to (Crouch, 1995), "the Asia (developed) region had the highest average income elasticity of demand (+4.45)". He further mentioned that "Japanese behavior toward international tourism is highly income sensitive". In a study on tourism between Australia and China, (Pham, et al., 2017) made the conclusion that "keeping a low cost of visiting Australia, both ground and travel costs, is a good strategy to secure greater numbers of Chinese tourists". Though domestic tourists do not care much about income and price changes as foreigners do, it was found that relative prices and real income affect domestic tourism in Northumbria (UK) and Galicia (Spain) regions, respectively (Seddighi & Shearing, 1997; Garin-Munoz, 2009).

In Iran, "transportation costs, Iran's development index, social and political conditions are the most important determinants of foreign tourism demand" (Kordbacheh, et al., 2012). In his research, (Crouch, 1995) learned that tourists from North America and Oceania appear to be more sensitive to the cost of transportation unlike "Northern European and developed Asian tourists who appear to be demand inelastic with respect to the cost of transportation". On the other hand, in Cambodia, "factors such as travel cost, GDP per capita and population size are the main sources in attracting international tourist arrivals" (Cchorn, 2017). Also, a study on Malaysia by (Kusni, et al., 2013) concluded "that tourists from OECD countries are sensitive to price changes". Similarly, (Culiuc, 2014) who found that "OECD countries generally exhibit higher elasticities with respect to economic variables (GDPs of the two economies, real exchange rate, bilateral trade) due to the larger share of business travel". Using gravity model to a large data of all countries, he also learned that "tourism flows respond strongly to changes in the destination country's real exchange rate, along both extensive (tourist arrivals) and intensive (duration of stay) margins". He also found that "tourism to small islands is less sensitive to changes in the country's real exchange rate, but more susceptible to the introduction/removal of direct flights". We are yet to find out whether exchange rates determine tourism demand in developing countries as they are a critical determinant in developed countries. (Turner & Witt, 2001) found that "international trade plays the major role in influencing business tourism demand, retail sales are the major influence on the demand for foreign holidays, and new private car registrations are the major determinants of VFR tourism demand". (Snieška, et al., 2014) undertook a research on rural tourism in Lithuania and the results showed that "the number of guests in rural farmsteads is strongly affected by all economic factors (excluding inflation) including GDP per capita, average monthly gross earnings, foreign direct investments, government expenditure and revenue, tangible investments per capita".

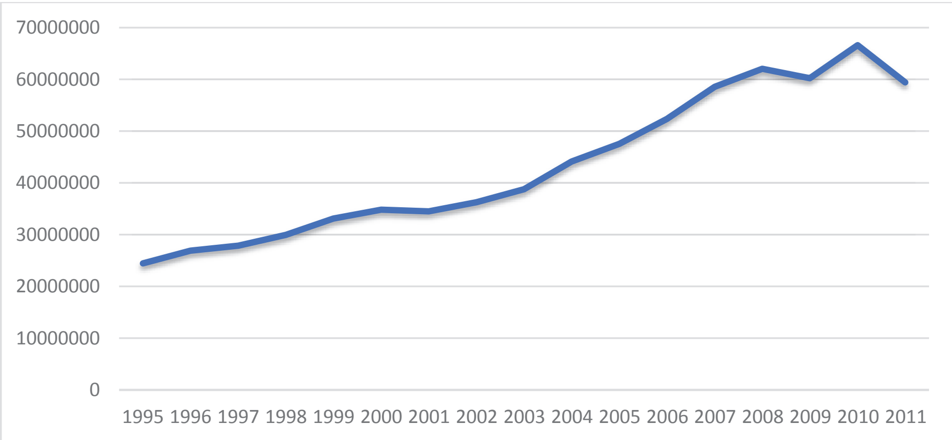
While economic determinants are important in analyzing tourism demand, we cannot underestimate the role of non-economic determinants. In fact, "several supply-side qualitative determinants also affect travelers' behavior" (Eilat & Einav, 2004; Khadaroo & Seetanah, 2008). (Cho, 2010) investigated the non-economic determinants of tourism demand from 4 continents (Asia, the Americas, Europe and Oceania) and identified two common factors including distance and aircraft departure. His research showed that the social factor is very important for tourists from Americas, Asia and Oceania. Cultural and natural heritage is a significant factor for tourists from Asia and Europe. On the other hand, American and European tourists care more about the seasonality of the destination. Finally, European and Asian tourists care more about carbon dioxide emission when choosing a country to visit. (Daniel & Rodrigues, 2010) asserts that "seasonality is an important feature of tourism and should be taken into account when developing this area of research". The studies mentioned above reached various conclusions using different methodologies and approaches. In this regard, we will review some determinants found using panel data analysis in other countries other than Africa.

In ASEAN-5 countries, the major determinants were income, trade, tourism price and carbon dioxide emission (Wakimin, et al., 2018). This study shows that each country or region can have its own determinants that would be insignificant if applied to areas where for instance carbon dioxide emissions are not much of an issue as in Asia. In the case of Romania, both models (Fixed Effects Static Panel and Tobit) indicated “that trade, population, and income are more important determinants than relative prices or geographical distance between Romania and countries of origin” (Surugiu, et al., 2011). On the other hand, (Proença & Soukiazis, 2005) carried out a research on Portugal and realized that “per capita income is the most important demand determinant and accommodation capacity the most important supply determinant”. A paper on international tourist arrivals from ASEAN countries to Malaysia identified that the level of income in tourists’ country of origin, the relative price of tourism in Malaysia and in the substitute destination, the 1997/1998 Asian financial crisis and the spread of SARS in Asia are the significant determinants (Kadir, et al., 2013). In their three-dimensional panel data analysis of the world, (Massidda & Etzo, 2012) carried out a panel analysis on Italian domestic tourism and found that “Italian tourists seem to be particularly sensitive to differences in relative prices between their region and the possible destinations”. Alongside other variables that seem important to Italian tourists, “per capita GDP in the sending regions plays a significant role”. The authors also learned that past choices and differences in environmental quality are influential in deciding which destination to visit. Interestingly, domestic and international destinations are deemed to be substitutable goods for Italian tourists. In the same study, support from the local government was found to positively affect tourism demand. (Yazdi, et al., 2017) performed a panel data approach to find out the determinants of tourism demand in USA and found that “real gross domestic product, consumer price index, real exchange rate and certain specific events have a significant impact on international tourism demand. The income elasticity suggests that tourism is non-luxury goods, and prices and real exchange rate have negative relation to tourist arrivals. We also find that tourism transport infrastructure is a significant determinant of tourist arrivals into the United States”. Most of the above-mentioned researches’ important determinant was income or having to do with prices. (Eilat & Einav, 2004) found another important determinant to be political risk and that exchange rates matter mainly for tourism to developed countries.

2.4. TOURISM DEMAND IN AFRICA

"The Africa's Travel Indaba is one of the largest tourism marketing events on the continent's calendar and one of the top three events of its kind on the global calendar. It showcases the widest variety of Southern Africa's best tourism products and attracts international buyers and media from across the world" (SABC, 2018). In its event in 2018, it was revealed that "62 million out of 1.3 billion tourists worldwide visit Africa" according to the (UNWTO, 2017), which is only 5% of the world's tourists. On a positive note, (UNCTAD, 2017) forecasts anticipated that Africa will receive in 2020, "85 million international tourist arrivals and 134 million in 2030, representing respectively 6,3% and 7,4% of international tourist arrivals" at the worldwide level. The growth in Africa during these periods will be the fastest compared to other regions. In its report, the (Africa Development Bank, 2015) highlighted that the United States, United Kingdom and France mostly dominate tourism to Africa. The same report shows a 200,000 increase in tourist arrivals regardless of the Ebola crisis in West Africa 2014 over the previous year, a sign of the continent's resilience. Given the promising nature of this sector, it is important to study more about this sector to take advantage of it.

Figure 2: International Tourist Arrivals-Africa



Source: World Development Indicators

By UNWTO regions, “Asia and the Pacific led growth in 2016 with a 9% increase in international arrivals, followed by Africa (+8%) and the Americas (+3%)”. “By region, the strongest results were recorded in Sub-Saharan Africa (+10%) followed by Oceania North-East Asia and South-East Asia (all +9%), South Asia (+8%) and South America (+7) (UNWTO, 2017)”. Africa and Europe grew above average in 2017. In the same year, sub-regions including “North Africa, Southern and Mediterranean Europe led results, reflecting strong demand for destinations along the Mediterranean” (UNWTO, 2018).

“North Africa, fueled by European short-haul tourism to the Mediterranean beaches of Tunisia and Morocco, leads the way among African sub-regions by accounting for over one-third of Africa’s arrivals and earnings from international tourism. Southern and eastern Africa come next, accounting for 30 per cent and between a fifth and a quarter, respectively, of the continent’s international tourism activity” (Cleverdon, 2002).

The (UNWTO, 2018) shows that “continued recovery in North Africa and the solid growth in most destinations that reported data” drove Africa’s results. It is also crucial to mention that “Morocco, Egypt, South Africa, Tunisia and Zimbabwe retained the 5 top rankings for most visited African destinations” (Africa Development Bank, 2015) while sub-Saharan large tourist destinations like Kenya, Côte d’Ivoire, Mauritius and Zimbabwe kept on performing well according to (UNWTO, 2018). The UNWTO report also showed improved air connectivity contributed to the “double-digit growth in arrivals” attained in Island destinations such as Seychelles, Cabo Verde and Reunion. Also, Egypt, mostly counted among middle eastern countries “led growth both in absolute and relative terms in arrivals, rebounding strongly from previous years”. Regardless of increased tourism receipts, one of Africa’s top destinations, South Africa, displayed decelerating growths in tourist arrivals. The 2016 increase in tourist arrivals represents “a strong rebound after a weaker performance in 2014 and 2015 in the wake of various health, geopolitical and economic challenges” (UNWTO, 2017). Given the rebound, one would assume that the challenges that led to weak performance prior to the rebound have been dealt with, which could be true but there is need for studies to prove the assumption.

There have been studies on determinants of tourism in Africa but there is need for more. (Naudé & Saayman, 2005) observed that "the economic dimensions of tourism to Africa, and specifically the determinants of the demand for Africa as a tourist destination, are neglected in the economic research literature". They also observed that "research on tourism demand and international tourism has focused on explaining tourism demand and flows in developed countries, with little attention to developing countries". There are just a few studies on tourism demand in Africa, whether they are for individual countries or the continent at large. Using other empirical methods other than panel regression analysis, the following results were obtained. (Eita, et al., 2010) estimated a tourism model and learned that income and infrastructure of the source countries increase tourist arrivals in South Africa. For Zimbabwe, taste formation, transport costs, changes in global income and certain specific events were found to have a significant impact on international tourism demand when autoregressive distributed lag (ARDL) approach was applied (Muchapondwa & Pimhidzai, 2011).

(Naudé & Saayman, 2005)'s "results strongly suggest that political stability, tourism infrastructure, marketing and information, and the level of development at the destination are key determinants of travel to Africa". In one of the most important African tourist destinations, Egypt, (Ibrahim, 2011) found that most of the variables (income, price, trade openness and other special factors) are statistically significant and except for population which was found to be inconsistent and had a negative sign. Tourism price, travelling cost, trade openness and word of mouth effect were the most factors which influenced international tourism demand in Kenya (Lucy, 2014). She also found other non-economic factors that affect international tourism demand in Kenya, namely, "annual household income, age, occupational status, political factors composite index and destination characteristics composite index". (Adeola, et al., 2018) found that "taste formation, real exchange rate, infrastructure, political stability and absence of violence, per capita income, foreign direct investment and trade openness are significant drivers of international tourism into Africa" unlike travel costs and domestic prices. Using panel data regression, (Fourie & Santana-Gallego, 2011) found that "determinants of African-inbound and within-African tourism are not all that different from global tourism flows; repeat tourism, income, distance, land area and the standard dummy variables not only drive global or OECD tourism, but also tourism within Africa, disproving the belief that African tourists" "differ substantially".

2.4.1. Major Challenges affecting Africa's Tourism Demand

"Today, Africa is on the rise, hosting the newly emerging, fastest-growing economies and youngest populations, which should serve as a springboard to a better future for the region" (Africa Development Bank, 2015). In its press release, (UNCTAD, 2017) confirmed that Africa's tourism sector has shown growth and forecasts further growth in tourism demand. However, the continent has not been immune to challenges, some of which have negatively affected the number of tourists arriving in Africa. In this regard, we will discuss some challenges affecting tourism in Africa, that might have negatively affected trends in tourist arrivals keeping in mind that "no two countries or sub-regions in Africa are similar in the range and difficulty of the problems they face" (Dieke, 2002). The need to highlight some challenges is inspired by the fact that the developmental challenges of LDC's may be met through tourism (UNCTAD, 2001). We therefore believe that this section will enlighten policy makers and other interested persons on the challenges affecting the tourism sector in Africa and hopefully derive solutions. They are divided into; Economic, Political and Social Challenges;

2.4.1.1. Economic Challenges

Poor infrastructure and accessibility are one of the main challenges hindering tourists from visiting Africa. (Zeithaml, et al., 1985) found that "the supporting infrastructural development is far below average for their comfort and taste both at the attraction sites and the intangible services". The infrastructures like "road networks and various means of transportations, the international and domestic airports, telecommunication and internet access, tour guide and efficient road signs & symbols, hotel accommodation and other axillaries services and perceived destination image all have positive relationship with the overall tourism performance" (Ndanusa, et al., 2014). In his study on The Gambia, (Sharpley, 2009) highlighted the shortage of natural and cultural sites for tourism alongside infrastructural issues. He also argues that even where these natural and cultural sites exist, "the tourism product is focused primarily on a limited mid-range hotel sector; with the exception of a relatively small supply of tourist bars and restaurants, out-of-pocket expenditure opportunities are limited to local craft stalls, tourist guides, juice pressers and taxis". (Christie, et al., 2013) found that just 10% of the region's (SSA) "390,000 hotel rooms are estimated to meet international standards, and South Africa has about a half of this stock". Instead, there are more unbranded guesthouses and lodges. There is need for African countries to improve accommodation facilities if they are to secure a place in tourism development.

(Rotich, 2012) asserted that some of the cultural sites in Kenya are deep inside the rural areas where most of the infrastructure especially roads are in bad state making these inaccessible during the rainy season. It is not a surprise though, that roads to rural areas are not tarmacked or developed yet because even in most urban areas, the same applies. This might restrain tourists from visiting a tourist site which would have otherwise been a good experience for them. In his narration, (Swayne, 1868) said that "the only means of transport in the mainland was on foot and/or ox back". Though this dates to colonial times in Tanzania, transport problems still exist despite improvements as (Cho, 2010) highlighted that accessibility of countries is the main concern to most international tourists. As for (Timothy & Teye, 2005), they clarified that "due to the weak air, water and rail transportation systems in Africa, the largest proportion of the intra-regional movements is by road transportation". If at least the said roads were in good condition, the tourism experience would be a pleasant one, which seems not to be the case according to various studies. In his study, (Cleverdon, 2002) mentioned the fact that most people complain about access to SADC regions and it is a setback to the tourism industry. He further highlighted the inadequacy of air transport within the region, that does not meet the existing demands.

Further, studies carried out by "Africa Region of the World Bank found that airfares were almost 50% more expensive to sub-Saharan Africa, and charter tours were 20-30% more expensive than to comparable destinations elsewhere hence the irregularity or non-availability of intra-regional air connections of internal air transport constrains access to internal destinations and also prevents progress with multi-country tourism packages" (Christie, et al., 2013).

(Kester, 2003) and (Estache, 2004) deemed Africa's "lack of tourism infrastructure, including availability of hotels and rental vehicles; while at the macro-level, the poor transport infrastructure, roads, railroads and airports" to be a detrimental disease to environment". It is vital to mention the trading patterns between/among African countries because it may result in increased demand for various goods and services, tourism included. We need not forget Africa's "low export diversity combined with poor transportation and communication infrastructure explain partly why African countries, relative to other regions, trade little with one another. In addition, the relatively poor infrastructure in Africa (with especially exorbitant air transport costs), may explain the reason why African tourists would rather choose to visit neighboring countries (using mostly road infrastructure) than other African countries on the continent, without having to cross too many borders" (Fourie & Santana-Gallego, 2011). Another salient area is the internet or use of technology which "has become a major platform for consumer use in comparative tourism decision-making" (Alrashid, 2012). In addition to remote areas which are yet to experience technological advancement, some urban areas still have underdeveloped technology. Among others, (Naudé & Saayman, 2005) showed tourism infrastructure to be a key driver in African tourism which is why these challenges need to be dealt with. While we appreciate that about 18 years ago, "44 African countries committed to deregulate air services and promote regional air markets open to transnational competition" (Africa Development Bank, 2015) in a bid to improve accessibility across the continent, we also prompt governments to ensure that the agreements are implemented.

High tourism price: We appreciate that tourism is a booming industry despite its challenges, however, this could also result in rising prices. (Chao, et al., 2006) "realized that the expansion of tourism causes an increase in revenue and improvement in trade as a result of price rises in non-traded commodities". In a bid to benefit from the tourism industry, some African countries may be tempted to increase prices for tourism services. (Butler, 2006) found that "tourist activity might give rise to inflation when the buying capacity of the visitors is greater than that of the locals" which may lead to the prices of "land, catering and services" hiking. In the case of Rwanda, (Nielsen & Spenceley, 2010) learned that price increases in gorilla permits appeared to affect tourism visitation, at least in the short term. As a result, tourists reduced the amount of days they stayed in the country having implications on the overall economic impact of international tourists in the country as a whole.

In their study on domestic tourism in Botswana, all the respondents said that "prices charged at local facilities are too high" (Morupisi & Lelokwane, 2017). One big challenge highlighted by (Kulindwa, et al., 2001; TTB, 2006) is "what tax policy should be in place for maximizing government revenue without hampering the growth of the sector". The reason for this concern is driven by the fact that tourism charges in Tanzania, especially in accommodation, are high compared with those of neighboring countries. While tourism is seen as a sector from which revenue can be generated, efforts to benefit from it can, not only scare away tourists but also discourage investors, especially when tax rates are high. A good example is shown in (Sharpley, 2009)'s study on Gambia who found that "high levels of taxation limit the ability or incentive for local operators to invest" and that "high levels of taxation, combined with a local bank lending rate of 30% renders investment in the tourism sector an unattractive proposition".

Insufficient funds: Running tourist facilities requires enough finances to develop their services to an international standard. However, many people engaged in tourist activities lack these funds. The Minister of Tourism in South Africa Derek Hanekom showed a concern of insufficient funds for emerging tourism businesses. (Aggrey, 2017) believes that funds are very crucial to the sustainability of tourism development in Ghana. Equally, (Okello & Novelli, 2014) found that "even in well-known destinations, public reinvestment in tourism attractions is often insufficient to maintain and improve attraction quality". Namaiyana, a group of Maasai women in Kenya and Merigo Women's Group lack finances to develop their cultural activities (Rotich, 2012). Usually, they raise money by selling their products to tourists and it helps community members to pay for basic needs, but it is insufficient. In the case of Gambia, (Dieke, 1993b) expressed that one of the setbacks of the public sectors' influence is poor administration and insufficient funds for promoting tourism. In fact, Gambia's "first 5-year development plan, and despite tourism's increasing economic importance, less than 4% of the national budget was allocated to tourism development; in the second 5-year plan (1980–85), this sum was halved" (Bah, 2004). Equally, (Ndanusa, et al., 2014) protested alleged Nigerian governments' lip service and the absence of an enabling environment and direct investment meant for tourism. More importantly, Many African countries still highly depend on ODA and are yet to be self-reliant to finance their own tourism industries. However, high reliance on aid from developed countries comes with its own problems like late disbursements among others. Let us not forget to mention the frequent reports or news on how embezzlement of funds is so detrimental to any kind of development.

Limited tourist attractions: Few tourist attractions can reduce tourism demand in a certain destination because it gives the tourist only a few options hence choosing other destinations with more interesting alternatives. African countries have rich cultural heritage, natural resources, multiple animal species to mention but a few. Yet, some countries still suffer with only a few products to showcase in tourism. A good example is Botswana which "has a mono-product tourism offering which is wildlife, based and highly priced leaving tourists with one option of travel which is outbound" (Morupisi & Lelokwane, 2017). Rwanda and Burundi have few world class diverse protected areas, Burundi particularly lacks charismatic large mammal species. "While in Kenya mass tourism needs to be better managed, by diversifying and promoting areas other than the national parks and the coastline honeypots, in Uganda and Rwanda, gorilla tourism should be packaged in conjunction with other local resources to harness the benefit of tourism beyond those associated with only one specific niche product" (Okello & Novelli, 2014). While some countries have just a few tourist products, others lack the expertise to showcase their products. In this regard, it is important for countries with monotonous tourist attractions to find diversified and innovative ways to attract tourists.

2.4.1.2. Political Challenges

Instability: Wars, terrorism, crime and longstanding political uncertainty can affect the tourism industry of any country. Political stability has gained salience in various literature on the role it has on tourism demand. (Eilat & Einav, 2004) who carried out a study on international tourism found that "political risk is very important for tourism". Other factors linked to political instability like corruption were found to negatively affect tourism demand as researched by (Poprawe, 2015). (Yap & Saha, 2013) undertook a study on the effect of various factors on tourist arrivals and found "that political instability and terrorism both exert a negative effect on tourist arrivals, even within UNESCO heritage areas". To be more specific, political instability affected tourism more than terrorism or corruption did. In international indices, most African countries appear in the lowest ranks in many aspects including institutional quality (where corruption and political stability are found).

There have been efforts to curb the setbacks of tourism demand, given the prevailing wars especially in the middle east and northern Africa. "At their third Ministerial Round Table on Tourism Development in the MENA Region, during the Madrid International Tourism Fair in 2015, participating Tourism Ministers pointed precisely to the critical contribution of political stability for tourism to prosper and contribute to socio-economic progress, including the need for political will to support tourism (Morocco), consolidation of democracy (Tunisia), an active civil society (Lebanon), as well as the benefits of trans-border cooperation in the MENA region (Jordan and Oman)" according to (UNWTO, 2015). Particularly in Tunisia, the coup d'état against President Zine El Abidine Ben Ali led to a 45 percent fall in tourist arrivals in 2011 as mentioned by (Saeid & Hasim, 2012). The authors went on to clarify that "the events that took place in Tunisia since the Revolution damaged the tourism sector, which recorded a terrible fall, exceeded 33% and losses reached up to 3364 million Tunisia Dinar". This "caused the closure of 17 hotel units, which led to the loss of 3 thousand citizens to their permanent income as well as the loss of 20 thousand citizens to their seasonal income, because of the lack of political and social stability and the absence of security in the country". We cannot forget to mention that residents, tourists and investors were discouraged and frightened by terrorist attacks that occurred in Kenya according to (Okello & Novelli, 2014). It has long been known that some African countries like Kenya enter into turmoil during elections and it is not so surprising why "Alliance hotel, which is locally owned posted the weakest growth at the beginning of the year during the electioneering period". The (Africa Development Bank, 2015) found that these falling numbers are mostly a result of travel advisories in western countries. Political and economic instabilities have been the order of the day in countries like Burundi and this poses a risk to tourists. “Africa’s smallest country may be renowned for its friendliness and has become a popular option for Britons hoping to escape the winter gloom, but it’s also part of a region being increasingly targeted by Islamic terrorists, who threaten to derail fragile tourism industries from the Gambia in the west to Ivory Coast in the east” (Morris, 2016). In his study on terrorism and tourism comparing developing and developed countries, (Thompson, 2011) indicated that developing countries are more affected by terrorism compared to developed countries because of “the cushioning effects of welfare resources and a greater diversity in the economy enjoyed by developed countries, which have greater resources to invest in the tourism market”.

Also, crime poses a threat not only on the local population but also foreigners. The (SABC, 2018) reported that a high crime rate in South Africa refrains visitors from “various local hot spot including pub and grills also known as Shisa Nyama”. In the case of Nigeria, “security of lives and properties is fast deteriorating, obvious cases of armed robbery, kidnapping, assassination, suicide bombing and other related crimes have negative relationship with tourism performance most especially on tourist satisfaction and repeat visit” (Johnson, 2001). Most of the countries excluded from this study lack data and this could be attributed to political unrest lingering for years for instance, South Sudan, Somalia among others. While it would have been crucial to study the trends of the excluded countries, one would conclude that studies or data availability are just a least of their problems.

Weak institutions: The importance of tourism should inspire governments to prioritize the sector through regulations, sound policies and good implementation strategies. However, alongside some corrupt governments and politically unstable countries comes poor institutions under which tourism would be catered for. (Christie, et al., 2013) mentioned that “tourism is rarely prioritized in government policies, mainly due to a lack of understanding of how tourism works, what is worth, and what is crucial to achieve ‘destination readiness’ for tourism”. A study on Tanzania by (Kazuzuru, 2014) indicated that since the introduction of trade liberalization policies “from 1960 to the early 1970’s, and later from 1986”, a gradual increment in tourist arrivals has been experienced, up to now. This shows that there is a positive correlation between policies and tourism demand. It was evidenced by (Douglas, et al., 2012) that South

Africa's pressing challenge is "unhelpful government policy for tourism" which undermines the country's tourism potential. It is crucial to mention that in this era of globalization, just like other sectors, tourism is evolving, and governments need to formulate and implement policies that meet the current or rather changing demands. Keeping in mind that the "character of tourism demand will continue to change" (Prosser, 1994), (Dieke, 2002) highlighted "that the challenge for national governments is to formulate tourism sector policies that best reflect the new thinking". On the other hand, (Sharpley, 2009) highlighted the concern regarding poor institution in Gambia and inadequate "expertise in planning or managing tourism at the national level". In addition, (Onyeacha, 2016) protested that since the 1998 democratic dispensation, the Nigerian tourism sector is regarded as a festival department and that the operators of national tourism planning are on board for political appointment not economic development. In his article, (Aggrey, 2017) mentioned that the "separation of public and private sector institutions involved in tourism" coupled with the complications associated with it makes consensus building and partnership formation very difficult. He also mentioned that Ghana's tourism is severely constrained by shortage of qualified staff needed for plan formulation and implementation. Among other issues, (Novelli, et al., 2012) mentioned that "poorly functioning political institutions, and financial mismanagement can hurt the political and investment image of a given country". While there are some African countries with relatively good institutions, most are suffering when it comes to policy formulation and implementation and these issues needs to be dealt with.

Visa requirements: When planning to go to a certain country, it is common sense that the restrictiveness of entry requirements matters. "Visas can pose a constraint as tour operators may opt for a country in a regional tour with high visa fees or complex procedures to secure it" (Okello & Novelli, 2014). One would believe that fellow Africans will have easy access to tourist destinations in other African countries, but the constraints remain. For instance, (Ezeuduji, 2013) found that Nigerians traveling to South Africa have to wait long hours to be offered a visa. He mentioned other issues like "expensive cost of living in South Africa, safety and security problems, not so many airlines to choose from and expensive flight costs". Long waiting hours for visa issuance is not the only cost tourists have to pay, even financial costs may be incurred. A good example is (Moonga, 2009)'s report in which the Zambian Tourism Board chairman protested the high $50 tourist visa fee and that it needed to be reduced to attract more tourists. Furthermore, (Banda & Cheelo, 2012) learned that Zambia charges higher visa fees compared to its counterparts in the region and has the potential to minimize the country's ability to attract more tourists relative to its neighbors in the region**.** While elaborating various issues, (Walle, 2010) mentioned that "complicated processes might discourage tourists and lead to change of mind by tourists to some competitive tourist destination". In a bid to offer a solution to this issue, the (Africa Development Bank, 2015) suggested that "visa facilitation systems and policies can augment tourism revenues and increase employment by levels of 5% to 25%".

2.4.1.3. Social Challenges

Health Risk: Africa has been known for Malaria, a disease mostly found in tropical regions and is hard to deal with for so long. Other epidemic diseases including Ebola, HIV/AIDS, etc., have affected tourism with respect to perception on Africa as a sickness or disease hub. "Declines in tourism have eroded economies in many countries on the continent" (Africa Development Bank, 2015) due to the outbreak of Ebola, "malaria has been identified as a health risk that lowers tourism" (Gallup & Sachs, 2000) and it's continual existence has the potential to discourage tourists as concluded by (Kazuzuru, 2014). Health issues were found to be a major concern in a country like Burundi where tourism is still in its first stages according to (Okello & Novelli, 2014). We cannot forget to mention that these health problems arise due to poor health facilities and infrastructure, poor sanitation, illiteracy and so on.

However, the (Africa Development Bank, 2015) suggested that travel should not be hindered regardless of the existing global health and security issues. Yet, responsible individuals, agencies and governments need to take action to curb the fear associated any health issue that tourists may acquire.

Perception: According to (Moutinho, 1993), "perception is the process by which an individual selects, organizes and interprets stimuli in a meaningful and coherent way". While perception is hard to explain given the fact that judgement depends on a person, literature shows that it has a role in deterring tourists from visiting a certain destination in either better off or worse-off countries. Alongside other factors, (Ndanusa, et al., 2014) found that perceived destination image has a positive relationship with the overall tourism performance. Equally, knowledge on a tourist destination has a role to play in determining to visit. (Steyn, 2012) realized that “Africa is still often perceived as one country or bloc and instability in Somalia or corruption in the Congo is accordingly often seen as being ‘African’, resulting in negative perceptions of Africa and reinforcing afro-pessimist myths”. If there has been a terrorist attack for example in Egypt, a North African country, people who don’t know that Africa is a continent will refrain even from visiting South Africa in fear of terrorist attacks. In addition, Africa has long been identified with hunger, poverty, political unrest to mention but a few, so when something happens, they are most likely to believe that the whole continent, or country, in their knowledge has been affected.

Bad perceptions cut across all sectors, including health e.g. “whilst Ebola was confined to some countries in west Africa, stark ramifications were felt across the continent with negative perceptions, decreased leisure bookings and cancellations” (Africa Development Bank, 2015). In South Africa’s case, “it still has to manage perceptions of travel-related risks which can affect destination choices in a negative manner” (Lepp & Gibson, 2011) despite its top ranking in most visited African countries.

Insufficient human capacity: Given the fact that most national parks are located in rural/remote areas, it is common to find unskilled workers who use experience gained from living there for a longtime, but lacking expertise especially academically. A study Tanzania’s tourism industry showed that “there is a shortage of skilled manpower for the tourism industry, such that investors have been employing skilled labor from neighboring countries such as Kenya” (TTB, 2006). In the case of Ghana, (Aggrey, 2017) highlighted the need to inject more professionalism and capacity building in catering, lodging, travel and tours, tour guiding after realizing a lack thereof. Merigo Women’s Group, a group run by Kenyan indigenous women is challenged by illiteracy, lack of exposure, environmental specialists (Rotich, 2012) and so on. She went on to elaborate that there is “little or no relevant training to help people with development and presentation of the tourist product” to foreign tourists. This lack of training therefore results into unequivocal pricing structures which puts off a lot of tourists hence undermining the potential of cultural tourism.

Poaching: From long time ago, Africans are known for hunting for food, hides, skin, or other ritual activities. While this practice has lost some of its grip as people have found other occupations, animal rights are being advocated for and tourism becomes vital, poaching is still a problem. With reference to the (Africa Development Bank, 2015), "African wildlife is facing one of its greatest crises in decades, with the illegal poaching and trade of protected animals reaching alarming levels. Poaching not only affects Africa's unique wildlife, it disrupts entire ecosystems, effectively of their livelihoods and threatening the very future of Africa's socio-economic development. Indeed, the loss of biodiversity is directly linked to lost development opportunities in the African tourism sector, which is an economic backbone supporting millions of people". In addition, "there is rampant poaching in some protected areas (commercial and for bush meat), leading to a general decline in wildlife populations and tourism charismatic species such as the big five" (Okello & Novelli, 2014). Despite anti-poaching efforts, in their article, Rwanda Safari Gorilla conveyed that the task of protecting the wildlife and their habitat is hard because poaching is still rampant in Rwanda on addition to encroachments of people to the reserves due to high population growth rates. UNWTO Commission for Africa Chairman and Zimbabwe's Tourism Minister Walter Mzembi, said that "intolerable carnage on wildlife though poaching amplified by illegal trade in game products" is still a challenge (Newsday, 2015). One would say that while many governments are looking forward to developing tourism, poachers are doing the opposite by eliminating the most important source of revenue. It is obvious that in countries where animal species are the main tourism products, poaching will only lead to reduced attractions thus reduced tourist arrivals.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1. INTRODUCTION

"Research Methodology is a science of studying how research is to be carried out. Essentially, the procedures by which researchers go about their work of describing, explaining and predicting phenomena are called research methodology" (Rajasekar, et al., 2013). This section therefore aims to elaborate the data, variables, empirical techniques and approaches carried out in this study.

3.2. DATA AND VARIABLES

We will analyze the determinants of tourist arrivals using panel data for 43 African countries from 2005 to 2015. The rest were excluded due to missing data. The data are obtained from sources including World Bank, Worldwide Governance Indicators and UNCTAD Statistics. With reference to the consumer behavior theory, income and price are important factors in determining international tourism demand. "Even though most of past studies have concentrated on the study of such economic variables, several empirical studies have found that the behavior of tourists may also be affected by non-economic and other exogenous factors, such as special events, political factors, social conflict, terrorism and natural disasters" (Kadir, et al., 2013). From observation, there are countless studies on economic variables but not on other variables in other aspects. In a bid to fill this void, non-economic variables will be modeled with economic variables and institutional quality indicators to determine their effect on tourism demand. The variables chosen for this study are inspired by some pillars and values used to determine the Travel and Tourism Competitiveness Index that are based on to rank the world's top tourism ready economies as stipulated by the World Economic Forum. Most of these pillars have a couple or more elements from which the researcher found suitable to rely on in choosing variables because they contain all aspects (i.e. economic, political and social). "If a panel data approach is to be followed, one necessarily has to make use of proxies to model the effect of time-varying effects such as tourism and travel prices on tourism demand" (Naudé & Saayman, 2005). The use of proxies was applied especially where there were no exact variables of what the researcher sought and where data was missing for most countries.

3.2.1. Dependent Variable

To analyze the determinants of tourism demand, many authors have found tourist arrivals to be a suitable indicator for tourism demand (Ouerfell, 2008; Dritsakis, 2004; Song, et al., 2003; Kulendran & Witts, 2001; Morley, 1998). With respect to this, we will utilize tourist arrivals as the dependent variable. "It depicts the number of tourists who travel to a country other than that in which they have their usual residence, but outside their usual environment, for a period not exceeding 12 months and whose main purpose is visiting other than an activity remunerated from within the country visited" (UNWTO).

3.2.2. Independent Variables

The independent variables used in this study include;

1. *Income level*: We use GDP per capita which usually shows the development rate of the country. This variable is used under the assumption that a high-income level has better infrastructure compared with a low-income country. Therefore. we expect that tourists will be more attracted by a country with better infrastructure.
2. *Exchange rate*: This reflects the relative price of goods and services purchased by tourists in the destination country. Real effective exchange rate indices are used as a proxy of the tourism price in the destination country. We expect a negative sign for this variable since high exchange rates may mean high prices hence reducing the demand for tourism.
3. *Health*: We use life expectancy at birth (years) as a proxy for health as previously used by (Fourie & Santana-Gallego, 2011). Since health is important for tourists, we anticipate that tourists are attracted to countries where their health is kept intact.
4. *Technology*: "As the influence of technology on tourism consumer behavior builds, researchers are devoting considerable attention to this rapidly changing era" (Cohen, et al., 2014). With respect to this, we use individuals using the internet (% of the population) as a proxy for the

technology level in the destination country. We predict that a more technologically advanced country will be demanded by more tourists.

5. *Institutional Quality*: Out of the six indicators of institutional quality index from World Governance Indicators, control of corruption, political stability and absence of violence/terrorism and regulatory quality are used separately in this study excluding the other three.

The estimate for control of corruption is used to determine whether a country with less corruption will receive more tourists. We chose this variable because of corruption issues in some African countries as shown earlier in the challenges. The estimate for political stability and absence of violence/terrorism is used to determine the extent to which political risk affects tourists. (Eilat & Einav, 2004) found that "political risk has a significant impact on tourism in both developed and developing countries". Further, the estimate of regulatory authority is used to determine whether the quality of policies attracts tourists to Africa. "To the best of our knowledge, there are no studies that investigate the effect of the quality of institutions on tourism flows" (Ghalia, 2016) which is why the researcher found it crucial to use some governance indicators separately. The general expectation is that a country with good institutions can formulate and implement policies that lead to tourism development, hence increased tourism demand. Yet, each variable will be explained individually.

3.3. METHODOLOGY

Using panel data (cross-section time-series data) estimation, we analyze the extent to which the dependent variables determine tourism demand in Africa. Having a span of eleven years, it is vital to apply a methodology that does not limit the analysis to a single time-period, e.g. cross-sectional data used often in gravity model (Ghalia, 2016). As a result, "other researchers have used panel data instead of cross-sectional data to pass over this limitation" (Song & Li, 2008). Furthermore, gravity-model, which is often the most appropriate form, is likely to "produce biased estimations owing to heterogeneity in the data drawn from countries" (Ghalia, 2016). It is in this regard that we chose panel data estimation to resolve the issue of heterogeneity that may occur in our observations (i.e. countries). More specifically, the fixed-effects model was found to be appropriate for this research given that it "assumes that each country has its own unobserved country-specific variables and estimates a separate constant term for each country. While random effects model assumes that unobserved country-specific variables follow a normal distribution, for which one overall constant term is estimated" (Ghalia, 2016). Also, we apply fixed-effects model to "remove the effect of time-invariant characteristics, so we can assess the net effect of the predictors on the outcome variable" (Torres-Reyna, 2007). We will analyze the role of the independent variables in three separate regressions and a combined one. All models share the same dependent variable i.e. tourist arrivals. The three groups are; economic determinants, non-economic determinants and institutional quality indicators.

3.3.1. Economic Determinants

Income and price are the most used independent variables in determining tourism demand (Lim., 1997). Income is usually used to measure the economic level of a country while the relative price of goods and services accounts for the cost of tourism and price competitiveness. In this study, it will be used as a measure of the level of infrastructure development in a country. The frequency in applying these variables in tourism demand studies explains how vital they are. It's through the following hypothesis that our results will be determined;

- **H_0**: $\beta 1=\beta 2=\beta n=0$ Economic determinants **do not** affect tourism demand
- **H_a**: $\beta 1, \beta 2, \ldots \beta n \neq 0$ Economic determinants **do** affect tourism demand

Thus, our model is as follows;

$\ln \text{TAR} = \beta_0 + \beta_1 \ln \text{Y} + \beta_2 \ln \text{Ex} + \mu_t$…………………………………………..…. Model (1)

where *ln Tar* is the dependent variable representing tourist arrivals, *ln* Y is the income level, *ln* Ex is the real effective exchange rate and μ_t is the value of the error term.

3.3.2. Non-Economic Determinants

Social and political factors are important as well in determining tourism demand. We assume that social factors are life expectancy, percentage of population using the internet while political factors include control of corruption and political stability. Further, we believe regulatory quality is cross-cutting since governments make policies and regulations for all sectors. Considering this, we choose to include it in this category. Basing on the following hypothesis, we will explain our results;

- **H_0**: $\beta 1=\beta 2=\beta n=0$ Non-economic determinants **do not** affect tourism demand
- **H_a**: $\beta 1, \beta 2, \ldots \beta n \neq 0$ Non-economic determinants **do** affect tourism demand

Hence, our model is;

ln Tar = $\beta_0 + \beta_1$ ln Hlth + β_2 PS + β_3 Tech + β_4 RegQ + β_5 Ccor + μ_t, …………………. Model (2)

where ln Hlth is life expectancy, *PS* is political stability, *Tech* is the country's level of technology, *RegQ* is regulatory quality, *Ccor* is control of corruption and μ_t is the value of the error term.

3.3.3. Institutional Quality Indicators

As far as one can tell from the literature, only a few studies have focused on the effects of institutional quality on tourism demand. To add on, studies on the same have singled out political stability from the institutional quality indicators. In this study, we pick three of the indicators which make up the institutional quality index to find out how each one of them influences tourism demand based on the following hypothesis;

- **H_0**: $\beta 1=\beta 2=\beta n=0$ Institutional quality indicators **do not** affect tourism demand
- **H_a**: $\beta 1, \beta 2, \ldots \beta n \neq 0$ Institutional quality indicators **do** affect tourism demand

Thereby, our model is;

ln TAR = $\beta_0 + \beta_1$ PS + β_2 RegQ + β_3 Ccor + μ_t………………………………………………… Model (3) where *PS* is political stability, *RegQ* is regulatory quality, *Ccor* is control of corruption and μ_t is the value of the error term.

Finally, we will estimate the regression including all the variables under study, in the same model.

$$\ln \text{TAR} = \beta_0 + \beta_1 \ln \text{Y} + \beta_2 \text{Ex} + \beta_3 \ln \text{Hlth} + \beta_4 \text{PS} + \beta_5 \text{Tech} + \beta_6 \text{RegQ} + \beta_7 \text{Ccor} + \mu t$$

where *ln* Tar*,* the dependent variable is tourist arrivals, *ln* Y is income level, *ln Hlth* is life expectancy (health)*, PS* is political stability, *Tech* is the country's level of technology, *RegQ* is regulatory quality and *Ccor* is Control of Corruption.

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATIONS

This chapter is meant to discuss the findings of this research. Basically, we will answer the research questions in chapter one referring to the hypotheses in chapter three. The analysis of the data is presented in descriptive statistics, fixed-effects regressions for grouped variables and an all-inclusive regression analysis.

Table 1. Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Year	473	2010	3.17	2005	2015
Country	473	22	12.42	1	43
Tourist arrivals	473	5.63	0.68	3.70	7.15
Income level	473	3.11	0.45	2.34	4.12
Real exchange rate	471	2.02	0.09	1.71	2.35
Health	473	1.77	0.05	1.64	1.88
Political stability	473	-0.53	0.88	-2.70	1.20
Internet usage	473	11.02	12.87	0.22	57.08
Regulatory quality	473	-0.60	0.57	-2.24	1.13
Control of corruption	473	-0.58	0.62	-1.54	1.16

PANEL REGRESSION RESULTS

Table 2: Fixed-Effects Regression for Split Variables

Dependent Variable – Tourist Arrivals			
Regressors			
	Model (1)	**Model (2)**	**Model (3)**
Income level	1.625*** (10.37)	-	-
Real exchange rate	- 0.173 (- 1.45)	-	-
Health	-	3.321*** (7.39)	-
Political stability	-	0.072** (2.57)	0.070** (2.23)
Internet usage	-	0.002** (2.11)	-
Regulatory quality	-	0.044 (0.91)	0.114** (2.09)

Control of corruption	-	0.013 (0.27)	0.016 (0.3)

t-stat is in parentheses
*significant at the 10% level
**significant at the 5% level
***significant at the 1% level

Table 2 shows results of three regressions using the same model (FE) but each regression contains variables split into three as explained in chapter 3.

The literature above shows that countries which rank highly in travel and tourism indices are endowed with efficient infrastructures that facilitate access to those destinations. These high-income countries like Spain, Italy, Germany, etc., have advanced air transport, ground and port infrastructure, and tourism services infrastructure which play a big role in welcoming tourists. This may explain the positive relationship between the income level and tourism demand as shown in Model (1). We found that a 1 unit increase in a country's income level leads to a 162% increase in tourism demand in Africa, other factors held constant. This means that tourists prefer to visit relatively high-income countries with better infrastructure. These results match those of (Adeola, et al., 2018) & (Fourie & Santana-Gallego, 2011) and disagree with those of (Uysal & Crompton, 1984) who found that real GDP negatively affected tourism demand. As expected, we found that the exchange rate is negatively related with tourism demand in that a 1 unit increase in real exchange rates will discourage tourist arrivals by 17.3%. However, real exchange rates are found to be insignificant. Similar results were found by (Naudé & Saayman, 2005) unlike those of (Kadir, et al., 2013) who found that real exchange rates were significant. A high real exchange rate implies high prices, which means more spending by tourists, thus tourists may be discouraged as explained in the literature review.

In Model (2), we run a regression for non-economic variables and found that health is significant at 1% level, political stability and internet usage are significant at 5% level and they are all positively correlated with tourist arrivals. It is quite common sense that tourism demand increases when a destination country has better health policies, facilities, etc. As a matter of fact, the results show that a 1 unit increase of health in a destination country will increase tourism demand by more than 300% ceteris paribus. (Fourie & Santana-Gallego, 2011) also found that life expectancy as a measure of health and standard of living is significant but negative for African countries. Also, these results conflict with (Naudé & Saayman, 2005) who found that the health variables (death rate and malaria) did not show a significant relationship with tourism demand. Regarding political stability, tourists are more likely to visit a country with less likelihood of terrorism, violence or political unrest, same finding by (Fourie & Santana-Gallego, 2011) & (Yap & Saha, 2013). It is also important to know that a more technologically advanced economy will be highly demanded by tourists. This result matches that of (Luo, et al., 2004) who found that "the internet has an important influence on the tourism industry through the facilities it provides for marketing, information and online booking". In fact, a 1 unit increase in political stability and internet usage will lead to an increase of tourist arrivals by 7.2% and 0.2% respectively, all factors held constant. On the contrary, regulatory quality and control of corruption are not significant variables to determine tourist arrivals.

In Model (3), the regression results indicate that political stability is positively significant at 5% level. Other things equal, when political stability increases by 1 unit, tourist arrivals increase by 7%. Interestingly, regulatory quality which was positively insignificant in Model (2) is significant at 5% level in Model (3) when joined with other indicators of institutional quality in that, when it increases by 1 unit, tourist arrivals increase by 11%. This could mean that regulatory quality is only fit to explain tourism demand when grouped with institutional quality indicators. These results agree with (Ghalia, 2016)'s results who found that institutional quality indicators are significant but contradicts the insignificance of control of corruption. In other words, tourists care less about the level of corruption when determining which African country to visit.

Table 3: All-Inclusive Fixed-Effects Regression Results

Variable	Coefficient
Dependent Variable – Tourist arrivals	
Constant	-0.898 (-1.06)
Income level	0.625*** (2.78)
Real exchange rate	-0.294** (-2.53)
Health	2.946*** (5.81)
Political stability	0.066** (2.44)
Internet usage	0.001 (0.59)
Regulatory quality	0.024 (0.49)
Control of corruption	0.005 (0.11)

t-stat is in parentheses
*significant at the 10% level
**significant at the 5% level
***significant at the 1% level

Table 3 shows results of the regression of all variables under study. Just as in the split regression results, income level, health and political stability are positively significant in explaining tourism demand. Income level and health of the destination country are significant at 1% level while political stability is significant at 5% level. Different from all other variables, the real exchange rate appears to be negatively significant in that if it increases by 1 unit, tourism demand will fall by 29%. Important to note however, is that the real exchange rate is only significant when combined with all other variables unlike when modeled with only economic variables. On the other hand, if all factors remain constant, a unit increase in income level, health and political stability will cause tourism demand to increase by 63%, 295% and 6.6% respectively. The insignificance of internet usage in the regression including all variables shows that it is only a fit variable when estimated with non-economic variables. Just as in Model (2) and contrary to Model (3) results, regulatory quality is insignificant to determine tourism demand.

Regardless of some insignificances, the fact that all variables upheld their signs in all regressions shows their consistent relationship with the dependent variable. The choice of the main determinants of tourism demand in Africa stems from consistent significance in all regressions run. To answer the research questions, we found that income level, health and political stability are steadily significant in all estimations hence being the main factors in determining tourism demand in Africa. On the other hand, control of corruption is consistently insignificant in all estimations.

4.1. HYPOTHESIS TESTING

Each model contains two or more variables, in this regard, we treat each variable separately to test the hypotheses set earlier.

Model (1): We expected all economic variables to affect tourism demand, thus we reject the null hypothesis for income level only i.e. we do not reject the null hypothesis for real exchange rates given its insignificance.

Model (2): Our expectation was that all non-economic variables affect tourism demand, yet we reject the null hypothesis for health, political stability and technology level only i.e. we do not reject the null hypothesis for regulatory quality and control of corruption given their insignificance.

Model (3): We anticipated that all indicators of institutional quality affect tourism demand, in this regard, we reject the null hypothesis for political stability and regulatory quality only i.e. we do not reject the null hypothesis for control of corruption considering that it is not a significant variable to explain tourism demand.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

This chapter serves to summarize the empirical findings backed by theoretical implications, to give recommendations for policy and further studies, and to conclude the study.

5.1. EMPIRICAL FINDINGS AND THEORETICAL IMPLICATION

In the first model including economic determinants, income level was found to be positively significant unlike real exchange rate which found to be negatively significance. In the second model involving non-economic variables, health, political stability and internet usage were found to be significant determinants which is not the case for regulatory quality and control of corruption. In the third model of institutional quality indicators, political stability and regulatory quality (insignificant in second model) are significant variables in determining tourism demand. In the model including all variables under study, we found that income level, health and political stability are significant. Except for exchange rate, the rest of the variables have a positive relationship with the dependent variable. Basing on the consistence of the results obtained, we found that income level, health and political stability are the main determinants of tourism in Africa. Which literally means that tourists prefer to visit countries with a relatively advanced economy with better infrastructure. A good example is South Africa, Egypt among others, which are the most visited countries as published by the (Africa Development Bank, 2015). Also, tourists would rather visit a country which is not prone to diseases i.e. with better health services, facilities, etc., or more importantly perceived as a place where tourists' health will not be at stake. Pertaining to the safety of tourists, political stability is a critical determinant for tourism in Africa.

5.2. POLICY RECOMMENDATIONS

We begin by providing general recommendations for the inconsistently significant variables (technology level, real exchange rates & regulatory quality) and then give more detailed recommendations for the consistently significant variables (income level, health and political stability) i.e. main determinants of tourism demand.

1. African governments should invest in technology; formulate and implement macroeconomic policies that contain inflation and maintain competitive exchange rates; and ensure that each sector is well regulated.
2. Governments to increase expenditure on infrastructure especially in air transport, ground and port infrastructure and tourism services infrastructure. This will not only increase the country's GDP, but it will also ease accessibility to tourist destinations and consumption of ameliorated tourism services.
3. African governments should spend more on health in a decentralized manner ensuring that from grass roots level, the health needs of citizens are met. This requires building health centers in all partitions of the country e.g. village, county, district etc. Also, they should devise and implement policies to ensure that health centers are well-equipped materially and in human capital.
4. Regarding political stability, governments should seek assistance from regional or international institutions to intervene especially in cases where solution is beyond the government's control e.g. terrorism. Concerning issues that can be dealt with domestically, governments should polish their long-standing political systems to ensure that they are not corrupt because corrupt government trigger political instability and violence. Policies and strategies should not only be put in place but also implemented to curb terrorism, wars, crime, etc. Furthermore, governments should increase military expenditure and other security aspects to enhance security within the country. Finally, they should strengthen the judiciary system to ensure that perpetrators are chastised.

5.3. RECOMMENDATIONS FOR FURTHER STUDIES

In the literature review we showcased various challenges facing Africa e.g. corruption, poor institutions, among others. Still, a question was raised about the most insignificant variables;

Why were most institutional quality indicators insignificant? Using either quantitative or qualitative approaches, there is need to study the extent to which institutional quality affects tourism demand because a country's policies are a core phenomenon that cannot be neglected in literature.

5.4. CONCLUSION

Tourism remains an important sector which is expected to keep prospering as forecasted by international tourism institutions. The main determinants of tourism demand in 43 African countries from 2005 to 2015 are income level, health and political stability. It is our pleasure that African countries have more literature to look up to, to formulate policies for the tourism sector based on empirical evidence.

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ANNEXES

ANNEX 1. List of countries used in this study

Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cabo Verde, Cameroon, Central African Republic, Chad, Comoros, Democratic Republic of Congo, Republic of the Congo, Cote d'Ivoire, Egypt, Eswatini (former Swaziland), Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Morocco, Namibia, Niger, Nigeria, Rwanda, Senegal, Seychelles, Sierra, Leone South Africa, Sudan, Tanzania, Togo, Tunisia, Uganda, Zambia, Zimbabwe.

ANNEX 2. Variables used in this study

Variable/Determinants	Definition & Source
Dependent	
International tourism, number of arrivals: lnTAR	International inbound tourists (overnight visitors) are the number of tourists who travel to a country other than that in which they have their usual residence, but outside their usual environment, for a period not exceeding 12 months and whose main purpose in visiting is other than an activity remunerated from within the country visited. ***Source:*** World Tourism Organization, Yearbook of Tourism Statistics, Compendium of Tourism Statistics and data files/World Bank Data.
Independent	
Gross Domestic Product Per Capita: lnY	GDP per capita is gross domestic product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. ***Source:*** World Bank National Accounts Data
Real Effective Exchange Rate Indices: lnEx	The effective exchange rate is an indicator to grasp country's international competitiveness in terms of its foreign exchange rates that cannot be understood by examining only individual exchange rates between the country's currency and other currencies. ***Source:*** United Nations Conference on Trade and Development Statistics (UNCTAD)
Life expectancy at birth total (years): lnHlth	This indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life. ***Source:*** World Development Indicators
Political stability and absence of violence/terrorism: PS	It measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism. ***Source:*** World Governance Indicators/World Bank Data
Individuals using the internet (% of the population): Tech	Internet users are individuals who have used the Internet (from any location) in the last 3 months. ***Source:*** World Development Indicators/World Bank Data
Regulatory Quality: RegQ	It captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. ***Source:*** World Governance Indicators/World Bank Data
Control of Corruption: Ccor	It captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. ***Source:*** World Governance Indicators/World Bank Data

초록

본 연구는 2005 년에서 2015 년까지 아프리카 관광업 수요의 결정요인을 회귀분석이론을 통해 분석, 확인하고있다. 이 연구는 더하여 고정효과 예측을 경제적, 비경제적, 그리고 기관의 질적 측면 등 3 가지 변수로 나누어 적용하였고 후에 모든 변수를 포함한 회귀분석을 실시하였다. 연구결과 수입 수준, 건강, 그리고 정치적 안정성이 아프리카 관광업 수요에 영향을 끼치는 주요 요소임이 드러났으며 부패 통제는 관광업에 있어 그리 중요한 요소가 아닌 것으로 확인되었다. 이와 관련하여 아프리카 국가의 정책가들과 영향력 있는 인사들은 국민들의 수입 수준, 보건 서비스, 그리고 기관들을 증진하여 정치적 안정성을 유지하는 것이 더 중요할 것으로 보여진다.

키워드: 관광업 수요, 패널자료, 고정효과 모델, 아프리카

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