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CLIMATE, AND TECHNOLOGY TRANSFER TO FOREIGN DIRECT  
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## JOINT EFFECT OF NATIONAL IMAGE, BUSINESS CLIMATE, AND TECHNOLOGY TRANSFER TO FOREIGN DIRECT INVESTMENT IN SUB-SAHARAN AFRICA

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### Abstract

The main purpose of this study was to establish the joint effect of national image, business climate, and technology transfer on foreign direct investment (FDI) among Sub-Saharan African nations. The investigation was based on the positivism approach, where a descriptive cross-sectional design was adopted. The study targeted all the 46 Sub-Saharan Africa (SSA) countries, and a census approach was employed to study all the SSA countries. Both primary and secondary sources of data were used in the study. A structured research questionnaire was used in collecting primary data, where a survey questionnaire was administered to the Heads of Foreign Missions of each of the 46 SSA countries in Kenya. The United Nations Conference on Trade and Development (UNCTAD) publications were used as the secondary sources of data. Data were then analyzed using both descriptive and inferential statistics. The R square indicated that the overall model explained 89.4% of changes in FDI. The overall model was also statistically significant ( $F= 95.709$ ,  $p\text{-value} < .05$ ). The influence of individual variables was statistically significant for business climate ( $\beta = 1.240$ ,  $p\text{-value} < .05$ ) and technology transfer ( $\beta = .540$ ,  $p\text{-value} < .05$ ) and not statistically significant for national image ( $\beta = .282$ ,  $p\text{-value} > .05$ ). Thus, the unique contribution of this study to theory is that national image, business climate, and technology transfer influenced FDI. This study has confirmed the contributions of various theories, including Soft Power Theory, Monopolistic Advantage Theory, and the Technology Gap Theory. The findings of this study will be a guide to policymakers to develop strategies, promotion of business climate, and technology transfers that are appropriate to the countries in Sub-Saharan Africa in order to enhance their FDI flows.

**Keywords:** National Image, Business Climate, Technology Transfer, FDI, International Business

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## Introduction

The research on national image is from the 1950s during Cold War (Ji, 2016) when realism was mainly concerned with national power prevailing globally. Research on modern foreign direct investment (FDI) can be dated back from 1960s, focusing on the motion, determinants and conditions of multinational enterprises (MNEs) (Fang, 2003), which weighs heavily on global business, developed rapidly with the trend of MNEs (Blonigen, 2005). Research on technology transfer was initiated by Vannevar Bush in 1945 then defined by Brooks (1968) that it is a process by which science and technology are diffused through human activity. Business climate research was initiated by the World Bank (WB) Report on ease of doing business and a business environment indicator system was introduced to assess the business environment of the global economy. Increasingly, researches (Búrcio, 2014; Young, 2017) links FDI to national image and another research related to national image links national brand to FDI (Kalamova & Konrad, 2009).

Monopolistic Advantage Theory derived from Hymer's doctoral (1960) thesis has challenged traditional theories on FDI and opens a new area for FDI research, which demonstrates FDI as different from foreign finance capital investment and becomes one of the five mainstream schools of FDI theory (Fang, 2003). The traditional research on FDI is restricted within a single area and lack of systematic connection with related area. This study leveraged national image equation, Monopolistic Advantage Theory and Technology Gap Theory to better understand the joint effect of national image, business climate and technology transfer to foreign direct investment among Sub-Saharan Africa nations.

Rodriguez-Pose and Cols (2017) refer that FDI flows are increasing fast worldwide,

however, Sub-Saharan Africa has fallen behind global level and covered less than two percent of global FDI. In addition, these countries from the Sub-Saharan region with more FDI flow is the commodity endowed area. The analysis of the findings revealed that political stability, government effectiveness, lower corruption, voice and accountability, and the rule of law were the main components for FDI attraction. The analysis only covered FDI determinants and omitted national image, business climate and technology transfer which are the critical components on FDI attraction and they were covered by the current study.

Various definitions have been offered on the concept of national image but the simplest one is of Lippman (1922) who defined it as the ideas created in people's minds on an overseas nation. Boulding (1959) states that national image refers to a cognitive, emotional, and assessment on the overall behavior unit, which in this case is a nation. In order to have a quantifiable indicator of national and city brand image, National Brands Index (NBI) has been created by Anholt (2011) with a set of proven methods called Anholt-GFK Roper as well as City Brands Index (CBI). He conducted a survey to measure the respondents' awareness of a country including three parts that is familiarity, love, experience and opinions about the country. From the results, it was deduced that the geographies of brands mattered most in the multi-disciplinary and international context. However, the investigation omitted dimensions of national image, business climate and technology transfer on FDI.

Eifert, Alan and Vijaya (2005) define the business climate as policies, institutions, infrastructure, human resources and geography that affect the efficiency of different businesses and industries. Sun (2016) argued that business climate is a relatively broad concept. For the

convenience of this analysis, many scholars have divided the business climate into multiple elements to include operations, capital acquisition and performance. Their conclusions provide a reference point for how to make good use of the external business climate but they have not considered dimensions of national image and technology transfer on FDI thus the gap sought by the current study. On the same breadth, Wortington (2011) divided external environment that affects the company into two categories as follows: one is the external factors that directly affect the company's daily operations, and the other is the tendency to affect the overall corporate external factors. However, the investigation did not cover the joint contribution of national image, business climate and technology transfer to foreign direct investment among Sub-Saharan Africa nations. This gap in knowledge was covered by including these elements (national image, business climate and technology on FDI) in the examination.

The concept of technology transfer (TT) was initiated by Bush (1945). The first United Nations Conference on Trade Development (UNCTAD, 1964) defined technology transfer as a collective term for technology input and technology output. It happens within countries, regions, industries or between industries and within the system itself, which emphasizes the adaptability of technology and the environment in this transfer. In other words, technology users are not technology researchers and the users gain the technology by transference from the researchers. On the same line, Xue (2007) proposed five indicators for the evaluation of technology transfer which included efficiency of technology suppliers, conversion rate of technical results and input-output ratio, market and economic development, opportunities, costs, human capital, and government incentives. On the

other hand, Zhang and Li (2007) argued that technology transfer can be explained by the motion of three types of knowledge: the first is the motion of the tangible knowledge system, such as the knowledge existing in products, equipment, and manufacturing enterprises; the second is the movement of the intangible knowledge system, similar information such as proprietary technology patents; the third is the macro and micro information flows that exist between countries, regions, business organizations, and individuals. All these studies only covered technology transfer dimensions and omitted other components of national image and business climate on FDI.

### **Research Problem**

Foreign direct investment (FDI) is one of the most widely used measures of macroeconomic performance of a nation. Nations are, therefore, always seeking strategies for enhancing favorable net FDI position. Theory and practice demonstrates that national image is a key antecedent of FDI. Boulding (1959), for instance, holds that national image can determine the choice of investment destination. However, some scholars argue that national image does not directly affect FDI but that it operates through perception of the potential investor on the overall business climate. Others such as Scott (1965) posit that whereas this may be the case, the relationship between national image and FDI can be strengthened or weakened by the level of technology transfer within the FDI framework.

The UNCTAD report (2021) examined how COVID-19 pandemic impacted foreign direct investment (FDI) globally and investment priorities for the recovery phase. It was revealed that the complex economic and health challenges caused by the pandemic throughout the African continent contained a significant impacts on FDI both to and from the region. In fact, Africa's share of total global FDI

inflows for developing economies fell from 6.3 percent to 5.9 percent between 2019 and 2020 respectively. Although FDI inflows were already on a decline, COVID-19 continued to have a negative impact on investment globally and regionally. Overall, FDI inflows to sub-Saharan Africa decreased by 12 percent between 2019 and 2020, but a few countries did see investments grow. In fact, Central Africa registered a consistent increase in FDI with inflows increasing to \$9.2 billion from \$8.9 billion. East Africa and southern Africa, on the other hand, saw 16 percent drops in inflows each since 2019. Notably, even within regions the impacts of the pandemic varied. For example, in West Africa, Ghana saw a 52 percent decline in FDI inflows in the year 2020- a drop from \$3.9 billion to \$1.9 billion; meanwhile, inflows to Nigeria slightly increased from \$2.3 billion in 2019 to \$2.4 billion in 2020 (UNCTAD,2020).

Several empirical investigations conducted on the joint contribution of national image, business climate and technology transfer to foreign direct investment produced mixed and inconclusive results. For instance, Osano and Koine (2016) examined role of FDI on technology transfer and economic growth in Kenya's energy sector. The study established that there was a relationship between FDI variables of infrastructure, technology diffusion, trade facilitation, knowledge management, and technology transfer and economic growth. Matiza, (2017) analysed the influence of non-financial nation brand image dimensions on FDI inflows in Zimbabwe. Literature was reviewed which led to nine independent variables that is tourism, governance, people, culture and heritage, exports, investment and immigration, factor endowments, infrastructure, and legal and regulation frameworks. Wako, (2021) analyzed FDI in sub-Saharan Africa. This study related FDI to economic

growth, institutional quality and manufacturing value added, using panel data techniques. The results confirmed that the studied variables each played a positive role in attracting FDI. However, all the investigations differed from the current study as they examined either one or two variables but not three variables concurrently on FDI. Also, some studies were covered only in one country but not all the entire region of SSA hence their findings were not applicable to the current study.

From the reviewed studies, it has confirmed that various empirical investigations have been conducted globally, regionally and locally with regard to the subject matter but with mixed and inconclusive results. Therefore, the current study intended to bridge this knowledge gap by answering a fundamental question: what was the joint contribution of national image, business climate and technology transfer to foreign direct investment among Sub-Saharan Africa nations?

### **Research Objective**

The objective of the study was to establish the joint effect of national image, business climate and technology transfer to foreign direct investment among Sub-Saharan Africa nations.

### **Theoretical Review**

This section provide with a discussion of the theories used for the study. The study used three thematic theories which included Soft Power Theory, Technology Gap and Monopolistic Advantage Theory

#### **Soft Power Theory**

Soft Power Theory was initiated by Nye (1990). He believes that comprehensive national power is divided into two forms: hard power and soft power. Hard power refers to dominant power, including basic resources (such as land area, population, and natural resources), military power, economic power, and scientific and

technological power; soft power is divided into national cohesion, culture. The degree of general acceptance and participation in international institutions. Nye summarized soft power as guiding force, attractiveness and imitating force. It entails the assimilating power, the attractiveness of a country's thoughts and its political-oriented ability. Keohane (2013) and Nye (2000) refer that the attractiveness of soft power to come from ideas, culture, or ability to set standards, systems, or agendas that affect other countries' preferences. On the same vein, Pang (1997) argued that a country with soft power radiates influence which make relevant external actors affected by this radiation, so that this country can use it to achieve international strategic goals. The soft power theory was relevant to this study as it explained the importance of soft power in a country and therefore provided a good foundation to establish the influence of national image on FDI.

### **Monopolistic Advantage Theory**

Monopolistic Advantage Theory was developed by Hymer (1960). He postulates that monopolistic advantages of the enterprises come from the incomplete advantages of the product market and the factor market who trusts the firm can gain and keep various monopolistic advantages in FDI to get higher profits than local companies due to the existence of imperfect competition. Advantages of management skills and economy of scale lead to low-cost operating advantages (Gillen & Lall, 2004). Pei and Zheng (2011) also concur that the advantage of the enterprises comes from both domestic region and overseas area. Active intervention in the home country's industrial organization and policy incentives can enhance the international competitive capability. Industrial advantage, scale advantage, home country's national image and cultural advantage promote the domestic

enterprise's advantage. In this sense, national image consists of the important elements to build monopolistic advantage of the mother land, which will lead the country to focus more on shaping the national image. This theory was suitable because it does not only open up the research field of international direct investment, but also breaks through the analysis model of FDI from the perspective of capital flow, and proposes that imperfect competition in the production factor market is the fundamental cause of FDI (Barney, 1986).

### **Technology Gap Theory**

Technology Gap Theory was pioneered by Posner (1961). He believes that technology is a production factor, and the real technological level has been increasing, but the development level varies in different nations, which enables the technology-intensive countries to take a lead in technology and export the products with high technology. As the technology is imitated by the importing country, this comparative advantage disappears leading to an end of trade. This theory was extended by Krugman (1991) who summarized two main types of International Trade Technology Gap Theory. The first is the pure technology gap model, which simply uses the difference in wage levels between the two countries to reflect the technological gap; the second is the Commodity model, which considers that production efficiency is an important factor in determining technology transfer. Krugman argues that there is a technological gap between the two countries and is a necessary condition for technology transfer. If there is no technology gap, then there is no need for technology transfer activities. Technology transfer serves as an important topic in international business, which is also one of the key variables in the study. This theory was applicable and relevant to the current study as it describes the connection of

national image, business climate and technology transfer to foreign direct investment.

### **Empirical Review**

Asongu, Uduak and Isihak (2018) examined on the determinants of foreign direct investment (FDI) in BRICS (Brazil, Russia, India, and China) and MINT (Mexico, Indonesia, Nigeria, and Turkey) regions using data for eleven years that is 2001 – 2011. From the study findings, it was established that infrastructure availability, market size, and trade openness played the most significant roles in attracting FDI to BRICS and MINT while the roles of availability of natural resources and institutional quality were insignificant. However, there was need to determine the influence of business climate and technology transfer as possible catalysts of the relationship between national image and FDI. In addition, most member states of BRICS and MINT are found outside, hence the need to investigate the phenomenon in an exclusively African setting such as SSA.

Javorcik (2004) examined on foreign direct investment and productivity of domestic firms in Lithuania. The analysis, based on firm-level data from Lithuania, produces evidence consistent with positive productivity spillovers from FDI taking place through contacts between foreign affiliates and their local suppliers in upstream sectors. The data indicated that spillovers are associated with projects with shared domestic and foreign ownership but not with fully owned foreign investments. Saadi (2011) investigated the relationship between technology transfer, FDI, among developing countries. The study showed that developed countries with absolute advantages in production technology benefited by transferring their advanced technologies to the export sectors of developing countries. A study by Newman, Rand, Talbot, and Tarp (2015) detected the connection among FDI,

technology transfer and production spillover. However, the concept of productivity spillover was operationalized so as to cover both national image and business climate. All these study produced mixed and inconclusive findings. This was revealed by the studies which were covered in different research settings other than SSA hence their findings cannot be applied and generalized to SSA nations. Also, other studies considered one or two dimensions of the variables used in this investigation but failed to cover national image, business climate and technology transfer on FDI concurrently. Thus, a knowledge gap filled by the present study.

### **Methodology**

This study was based on positivism approach and study used a descriptive cross-sectional design. The population of the study was all of SSA 46 (World Population Prospects 2019) countries and a census survey of all the countries in SSA was done hence no sampling was done. Both primary and secondary data were used in the study. A structured research questionnaire was used in collecting primary data. The questionnaire was administered to the Heads of Foreign Missions of each of the 46 SSA countries in Kenya. The UNCTAD (2019) publications was used for secondary sources of information. Data was then analyzed using both descriptive and inferential statistics.

### **Findings**

#### **National Image**

This study classified the national image as political, economic, social and technological. To capture data on the various national image dimensions, descriptive statements derived from literature were presented to respondents on a 5-point Likert scale. The 5-point Likert scale was from 1(not at all) to 5 (very large extent). They were presented to respondents and were requested to indicate

the extent to which the statements applied in their countries. The analysis of the

findings is presented in Table 1 below:

**Table 1: Descriptive Statistics for Political Dimension**

Political	N	Mean	Std. Dev	CV
My country has strong justice system	38	2.158	1.089	0.505
My country has independent parliament	38	2.842	1.268	0.446
My country has an effective executive	38	2.579	1.091	0.423
My country's leadership respects the constitution	38	2.632	1.037	0.394
My country has strong electoral system	38	2.737	1.250	0.457
<b>Average</b>		<b>2.589</b>	<b>0.907</b>	<b>0.350</b>

**Source: Research Data (2020)**

The average mean score of the statements depicting the manifestations of politics in national image among the surveyed countries is 2.589, standard deviation of 0.907 and coefficient of variation of 0.350. This implies that politics manifests moderately among Sub-Saharan Africa

countries. The study further revealed that the responses varied at low level with coefficient of variation (CV) ranging from 39% to 51% implying that the manifestation of politics was on equal level across the countries surveyed.

**Table 2: Descriptive Statistics for Economic Dimension**

Economic	N	Mean	Std. Dev	CV
My country's financial system is well developed	38	2.579	1.311	0.508
My country has clear inflation policies	38	2.263	0.965	0.426
My country has high foreign remittances generally	38	2.895	1.252	0.433
My country has reliable Forex system	38	3.000	0.973	0.324
<b>Average</b>		<b>2.684</b>	<b>0.706</b>	<b>0.263</b>

**Source: Research Data (2020)**

The average mean score for the statements of how economics manifests among the Sub-Saharan Africa countries implies it exists to a moderate extent (Mean=2.684, SD=0.706 and CV=0.263). On overall, the

coefficient of variation ranged from 32% to 51%, which implies that there was a low variation of responses as far as the statements are concerned across the surveyed countries.

**Table 3: Descriptive Statistics for Social Dimension**

Social	N	Mean	Std. Dev	CV
My country has flexible work culture	38	3.368	1.037	0.308
My country has robust and diverse human resources	38	3.368	1.179	0.350

My country has country has less religious barriers to integration	38	3.395	1.226	0.361
My country has country has less cultural barriers to integration	38	3.368	0.871	0.259
<b>Average</b>		<b>3.375</b>	<b>0.771</b>	<b>0.228</b>

**Source: Research Data (2020)**

The average mean score for the social dimension of national image among the surveyed countries (Mean=3.375, SD=0.771 and CV=0.228) imply they statements manifest to a moderate extent. However, the low range of CV of 26% to

36% implies that the responses varied less among all the countries surveyed. This depicts that the social dimension of national image is common among the Sub-Saharan Africa countries.

**Table 4: Descriptive Statistics for Technological Dimension**

Technological	N	Mean	Std. Dev	CV
My country has clear policies on ICT	38	2.684	1.126	0.420
My country has robust internet supply	38	2.947	1.234	0.419
My country has high supply of ICT skills	38	3.211	1.239	0.386
<b>Average</b>		<b>2.947</b>	<b>1.010</b>	<b>0.343</b>

**Source: Research Data (2020)**

The average mean score for the technological dimension of national image among the surveyed countries (Mean=2.947, SD=1.010 and CV=0.343) imply they statements manifest to a moderate extent. However, the low range of CV of 26% to 36% implies that the responses varied less among all the countries surveyed. This depicts that the technological dimension of national image

is common among the Sub-Saharan Africa countries.

**Business Climate.**

The researcher requested the respondents to indicate their level of agreement or disagreement with regard to registering business and FDI inflows. The analysis of the findings was indicated in Table 5 below

**Table 5: Descriptive Statistics for Registering Business**

Registering Business	N	Mean	Std. Dev	CV
Registering a business in my country is fast	38	3.053	1.146	0.375
The processing speed of business registration applications is high	38	2.737	1.250	0.375
My country has clear public outline of requirements for business registration	38	3.316	1.216	0.375
<b>Average</b>		<b>3.035</b>	<b>1.048</b>	<b>0.375</b>

**Source: Research Data (2020)**

Table 5 shows that the average mean score for the manifestations of registering a business is rated to a moderate extent (Mean=3.035, SD=1.048, CV=0.375). Further there was equal variation among all the three statements on registering a

business among Sub-Saharan African countries with a coefficient of variation of 37.5%. The study therefore depicts the manifestations of ease of registering business among Sub-Saharan Africa countries.

**Table 6: Descriptive Statistics for Starting a Business**

Statement	N	Mean	Std. Dev	CV
There are limited requirements to start a business in my country	38	3.105	1.071	0.345
My country has limited progressive laws on business registration	38	3.421	0.990	0.289
There are clear institutions that deal with start ups	38	2.474	1.094	0.442
<b>Average</b>		<b>3.000</b>	<b>0.749</b>	<b>0.250</b>

**Source: Research Data (2020)**

The results in Table 6 show that the average mean score for the statements depicting the manifestation of registering a business is 3.000, standard deviation of

0.749 and coefficient of variation of 0.250. This infers that starting a business in Sub-Saharan Africa countries has been eased to a moderate extent.

**Table 7: Descriptive Statistics for Construction Permits**

Construction Permits	N	Mean	Std. Dev	CV
My country has limited requirements for construction permits	38	3.237	0.901	0.278
My country has established institutions that deal with construction permits	38	2.895	0.968	0.334
My country does not have much red-tape in construction permit acquisition	38	3.000	1.076	0.359
<b>Average</b>		<b>3.044</b>	<b>0.689</b>	<b>0.226</b>

**Source: Research Data (2020)**

The results in Table 7 infer that to a moderate extent, there is manifestation of ease of acquiring construction permits among Sub-Saharan Africa countries

(Mean = 3.044, SD = 0.689, CV = 0.226). There was also low range of coefficient of variation from 34.3% to 50.8% indicating that there was low variation in responses.

**Table 8: Descriptive Statistics for Getting Electricity**

Getting Electricity	N	Mean	Std. Dev	CV
My country has enough on-grid energy supply	38	3.053	1.050	0.344

My country has enough off-grid energy supply	38	2.684	0.921	0.343
My country rarely experiences electricity supply interruptions	38	2.421	1.184	0.489
The cost of electricity in my country is not prohibitive of investment	38	2.579	1.311	0.508
<b>Average</b>		<b>2.684</b>	<b>0.914</b>	<b>0.340</b>

**Source: Research Data (2020)**

The findings in Table 8 indicate that to a moderate extent, there is ease of access to electricity (Mean=2.684, SD=0.914 and CV=0.340)

**Technology Transfer**

**Table 9: Descriptive Statistics for Tangible Knowledge System**

Tangible Knowledge System	N	Mean	Std. Dev	CV
My country has clear skill transfer policies for all FDIs	38	2.579	1.042	0.404
My country has clear industry-academia collaboration framework	38	2.947	0.887	0.301
My country has clear internship policies	38	2.158	1.089	0.505
My country has clear indentured leadership policies	38	2.421	1.091	0.451
<b>Average</b>		<b>2.482</b>	<b>0.656</b>	<b>0.349</b>

**Source: Research Data (2020)**

The average mean score of tangible knowledge system is 2.482, standard deviation of 0.656 and coefficient of variation of 0.349 which implies that tangible knowledge system is being practiced to a less extent among Sub-

Saharan Africa countries. The analysis revealed that the respondents varied less on the statements of tangible knowledge system with a range from 30% to 50% implying that it is a common consideration amongst the Sub-Saharan Africa countries.

**Table 10: Descriptive Statistics for Intangible Knowledge System**

Intangible Knowledge System	N	Mean	Std. Dev	CV
My country has adaptive social system	38	2.789	0.893	0.320
My country has adaptive institutional policies	38	2.842	0.874	0.308
My country encourages integrated learning in the industry	38	2.895	1.021	0.353
<b>Average</b>		<b>2.842</b>	<b>0.783</b>	<b>0.275</b>

**Source: Research Data (2020)**

The average mean score of intangible knowledge system is 2.842, standard deviation of 0.783 and coefficient of

variation of 0.275 which implies that intangible knowledge system is being practiced to a moderate extent among Sub-

Saharan Africa countries. Further, it can be seen that to a moderate extent, Sub-Saharan African countries: encourages

integrated learning in the industry; has adaptive institutional policies; and has adaptive social system.

**Table 11: Descriptive Statistics for Macro and Micro Information Flow**

Macro and micro information flow	N	Mean	Std. Dev	CV
My country freely provides information about the firms in the country	38	2.421	1.311	0.541
My country provides accurate information about the investment opportunities in the country	38	2.000	1.214	0.607
My country provide accurate information about the governance systems in the country	38	2.421	1.091	0.451
<b>Average</b>		<b>2.281</b>	<b>1.094</b>	<b>0.480</b>

**Source: Research Data (2020)**

Given the results, it can be inferred that to a less extent, Sub-Saharan Africa countries: freely provides information about the firms in the country; provide accurate information about the governance systems in the country; and provides accurate information about the investment opportunities in the country as shown by a mean of between 2 and 2.421. This implies that macro and micro information flow in these countries is only being practiced to a

less extent. In general, all the aspects measured under micro and macro information flow were found to be implemented to a less extent (Mean= 2.281, SD = 1.094, CV = 0.480). The variation in the responses was also high implying that respondents varied sharply among the surveyed countries on the aspect of macro and micro information flow.

**Foreign Direct Investments**

**Table 12: Descriptive Statistics for Foreign Direct Investments**

	N	Minimum	Maximum	Mean	Std. Deviation
FDI (\$)	46	-1297748899	5376210860	828982503.13	1205867119.586
Valid (listwise)	N 46				

**Source: Research Data (2020)**

The results of the study reveal that the average FDI for the last 10 years (2009 to 2018) in Sub-Saharan Africa countries was 828,982,503.13 dollars with a standard deviation of 1,205,586, 119.586 dollars implying variability from one country to another. The lowest FDI recorded was - 1,297,748,899 dollars implying that the outflows are more than the inflows while

the highest value of FDI recorded was 5,376, 210,860 dollars.

**The Contribution of National Image, Business Climate and Technology Transfer on FDI**

Hypothesis **H<sub>01</sub>**; *There is no significant to joint effect of national image, business climate and technology transfer on FDI*

among Sub-Saharan Africa countries. The findings of the tests are as per Table 13.

**Table 13: The Contribution of National Image, Business Climate and Technology Transfer on FDI**

<b>Model Summary</b>						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.946a	.894	.885	.449960		
a. Predictors: (Constant), Technology Transfer, National Image, Business Climate						
<b>ANOVA</b>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	58.133	3	19.378	95.709	.000 <sup>b</sup>
	Residual	6.884	34	.202		
	Total	65.017	37			
a. Dependent Variable: FDI						
b. Predictors: (Constant), Technology Transfer, National Image, Business Climate						
<b>Regression Coefficients</b>						
Variable	B	Std. Error	Beta	T	Sig.	
(Constant)	14.286	.377		37.866	.000	
National Image	.282	.229	.134	1.234	.226	
Business Climate	1.240	.283	.575	4.374	.000	
Technology Transfer	.540	.176	.292	3.064	.004	

a. Dependent Variable: FDI

**Source: Research Data (2020)**

The findings in Table 13 indicate an increase in the explained variation in the model which was statistically significant. Adjusted R square shows that the overall model explained 88.5% of changes in FDI. The overall model was also statistically significant (F= 95.709, p-value< .05). The influence of individual variables was statistically significant for business climate and technology transfer and not statistically significant for national image. The influence of business climate (B= 1.240, p-value< .05) was higher than the influence of the other two variables, that

is, technology transfer (B= .540, p-value< .05) and national image (B= .282, p-value> .05).

**Discussion**

The main purpose of this study was to establish the joint effect of national image, business climate and technology transfer to foreign direct investment among Sub-Saharan Africa nations. The study used Soft Power Theory, Technology Gap and Monopolistic Advantage Theory. The investigation targeted 46 Sub-Saharan nations where both descriptive and

inferential statistics were used to determine relationships among the variables studied. The study results indicated that political dimension, economic dimension, social dimension, business climate, and technological dimension moderately manifested themselves among the Sub-Saharan Africa countries. From the regression findings, the influence of individual variables was identified to be statistically significant for business climate and technology transfer and not statistically significant for national image. The influence of business climate ( $B= 1.240$ ,  $p\text{-value} < .05$ ) was higher than the influence of the other two variables, that is, technology transfer ( $B= .540$ ,  $p\text{-value} < .05$ ) and national image ( $B= .282$ ,  $p\text{-value} > .05$ ).

### **Conclusion**

The study was set to determine the joint effect of national image, business climate and technology transfer to foreign direct investment among Sub-Saharan Africa nations. From the study findings, it was concluded that national image, business climate and technology transfer jointly contributed greatly to FDI among Sub-Saharan Africa countries. This conclusion lends credence to the postulation that foreign direct investment is not only determined by the national image of the host country but business climate and technology transfer factors also come into play.

### **Implications for Theory, Practice and Policy**

This study has advanced frontiers of knowledge from the study findings. It lends support to strategic management theories that national image, business climate and technology transfer concepts influence FDI (Huntington, 2002). This study has confirmed the contributions by the various theories and lends support for the hypothesized relationships. These are Soft Power Theory (Joseph Nye, 1990);

Monopolistic Advantage Theory (Hymer, 1960) and the Technology Gap Theory (Posner, 1961). The findings of this study demonstrate that the approach on the variables is important in Sub-Saharan Africa countries and that it helps in identifying theories unique to developing countries and increase the national image validity of theories developed in industrialized countries. The findings of this study also offer suggestions that are beneficial to policy makers in the Sub-Saharan Africa countries. Foreign direct investments are very crucial to SSA economic development and contribution to the gross domestic product. The findings of this study guide policy makers to develop strategies, promotion of business climate and technology transfers appropriate to the countries in Sub-Saharan Africa in order to enhance their FDI flows.

Also, SSA countries should have clear policies on ICT supply, robust internet supply and high supply of ICT skills knowing that they have an influence on FDI inflows. The SSA countries are required to strengthen their business climate to ensure that registering a business is fast, the processing speed of business registration applications is high and that the country has clear public outline of requirements for business registration if they are to be a competitive destination for FDI. National image dimensions manifest differently in the Sub-Saharan Africa. Some dimensions are significant while others are not on the different levels of FDI. It is therefore prudent for countries in Sub-Saharan Africa to understand the national image dimensions in the regional context in order to carry out frequent analysis and develop strategic approaches relevant to their FDI competitiveness. Sub-Saharan Africa countries should also focus on identifying and developing technology transfer and business climate aspects that are

significantly related to FDI in their national image dimensions and adjust their focus and strategies accordingly.

### Limitations and Suggestions for Further Research

The current study examined on 46 SSA nations. Therefore, another investigation should be conducted for African nations outside SSA and how they attract FDI in their respective regions. This will determine whether the conclusions reached in this study are applicable in the context of other geographical areas in Africa and how they relate to SSA's business environment vis-à-vis the African market. The researcher suggests future research to focus on FDI flows in specific sectors of the economies such as manufacturing, trade in services, agribusiness, SMEs, energy and infrastructure which all contribute critically to the countries' GDP.

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