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# THE IMPACT OF INSTITUTIONAL QUALITY ON HUMAN DEVELOPMENT IN SUB-SAHARA AFRICAN COUNTRIES

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DOCTOR OF PHILOSOPHY UNIVERSITI UTARA MALAYSIA AUGUST 2016

## THE IMPACT OF INSTITUTIONAL QUALITY ON HUMAN DEVELOPMENT IN SUB-SAHARA AFRICAN COUNTRIES

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Thesis Submitted to School of Economics, Finance and Banking Universiti Utara Malaysia In Fulfillment of the Requirement for the Degree of Doctor of Philosohpy

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#### ABSTRACT

Despite the abundant research on institutional quality and development, little has been done to examine the impact of institutional quality on human development in Sub-Sahara African (SSA) countries. Many institutions in the SSA are problematic because of weak rules of law, high level of corruption, poor bureaucratic quality and low property rights which have resulted in low level of human development, standard of living, educational attainment and life expectancy. Institutions and economic transformations through human development have become the central focus of the development agenda in developing countries. The objective of this study evaluates the relationship between institutional quality and human development in SSA countries from 2005 to 2013. The study used secondary data which were sourced from World Bank governance indicators and Transparency International. The empirical analysis used both static and dynamic panel data. The study aggregated and disaggregated human development indicator into three components namely; standard of living, educational attainment and life expectancy. The SSA countries are divided into low income and lower middle-income countries. The empirical results of fixed effects model, random effects model and the General Method of Moments (GMM) produced similar outcomes. The results suggest that institutional quality contributes to the low level of human development of SSA countries. In addition, most of the investigated countries exhibits mixed performance in terms of the institutional quality and human development. Nevertheless, the results signify that institutional quality plays vital role in human development in the SSA countries. Consequently, the study recommends policies such as economic and political reforms to strengthen the institutional quality, to fight corruption, to enforce strong law for effective regulations and implementation in the region. Finally, human development capabilities need urgent attention to improve the standard of living of the people and to attain their yearnings and aspirations in life.

**Keywords:** human development, institutional quality, panel data methods, Sub-Saharan Africa countries

#### ABSTRAK

Walaupun banyak penyelidikan telah dijalankan keatas kualiti institusi dan pembangunan, namun kurang kajian mengenai kesan kualiti institusi ke atas pembangunan insan terutamanya di negara-negara Sub-Sahara Afrika (SSA). Kebanyakan institusi di negara-negara SSA bermasalah disebabkan oleh undangundang yang lemah, tingkat amalan rasuah yang tinggi, kualiti birokrasi yang lemah, dan sistem hak harta benda yang lemahsehingga menyebabkan tahap pembangunan insan, kualiti hidup, tahap pencapaian pendidikan danjangka hayat yang rendah. Institusi dan transformasi ekonomi melalui pembangunan insan telah menjadi tumpuan utama dalam agenda pembangunan di negara-negara membangun. Kajian ini bertujuan untuk menilai hubungan antara kualiti institusi dan pembangunan insan di negara-negara SSA dari tahun 2005 hingga 2013. Kajian ini menggunakan data sekunder yang diperoleh daripada petunjuk tadbir urus Bank Dunia dan *Transparency* International. Analisis ini menggunakan data panel statik dan dinamik.Kajian ini mengagregat dan memisahkan pembangunan insan kepada tiga komponen iaitu taraf hidup, pencapaian pendidikan dan jangka havat. Negara-negara SSA terbahagi kepada dua iaitu negara berpendapatan rendah dan negara berpendapatan sederhana rendah. Keputusan analisis empirik yang menggunakan model kesan tetap, model kesan rawak dan Kaedah Umum Momen (GMM) menunjukkan keputusan yang sama. Keputusan menunjukkan bahawa institusi kualiti menyumbang kepada tahap pembangunan insan yang rendah di negara-negara SSA. Di samping itu, kebanyakan negara-negara yang dikaji mempamerkan prestasi bercampur-campur dari segi kualiti institusi dan pembangunan insan. Bagaimanapun, keputusan mengesahkan bahawa kualiti institusi memainkan peranan penting dalam pembangunan manusia di negara-negara SSA. Oleh itu, kajian ini mencadangkan dasar-dasar seperti reformasi ekonomi dan politik bagi mengukuhkan kualiti institusi, memerangi rasuah, menguatkuasakan undang-undang yang ketat bagi regulasi dan perlaksanaan yang Akhir sekali, keupayaan pembangunan manusia memerlukan perhatian efektif. segera jika inginkan kesan yang berganda terhadap kualiti hidup rakyat bagi memenuhi keinginan dan aspirasi dalam kehidupanmereka.

Kata kunci: pembangunan insan, kualiti institusi, kaedah data panel, negara Sub-Sahara Afrika

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## LIST OF ABBREVIATIONS

ADB	African Development Bank
AU	African Union
SSA	Sub Saharan Africa
ECOWAS	Economic Community of West African State
HDI	Human Development Index
UNDP	United Nation Development Programme
MDGs	Millennium Development Goals
SADC	Southern African Development Community
CEMAC	Central African Economic and Monetary Community
EAC	East African Community
GDP	Gross Domestic Product
RLI	Rule of Law Index
CI	Corruption Index
BQI	Bureaucratic Quality Index
PRI	Property Right Index
MDGs	Millennium Development Goal Strategy
GMM	Generalise Method of Moments
NEPAD	New Partnership for Africa's Development
HCDT	Human Capital Development Theory
EBRD	European Bank for Reconstruction and Development
OECD	Organisation for Economic Co-operation and Development
ICRG	International Country Risk Guide
IFI	International Financial Institutions
PCSE	Panel Corrected Standard Error
UNCTAD	United Nations Conference on Trade and Development
UNECA	United Nations Economic Commission for Africa
UNESCO	United Nations Educational, Scientific and Cultural
	Organisation
UNICEF	United Nations International Children's Emergency Fund
WDI	World Development Indicators
WGI	World Wide Governance Indicator

## CHAPTER ONE INTRODUCTION

#### 1.1 Introduction

Chapter One introduces the entire thesis. Here specifically, Section 1.2 provides background to the study, with emphasis on institutional quality and human development. Section 1.3 explains the problems that this study addresses, thereby pointing out the gaps in the literature. Section 1.4 addresses the research questions of the study. Section 1.5 provides the objectives of the study, stated in general and specific form. Section 1.6 explains the significance of the study. Section 1.7 discusses the scope of the study while Section 1.8 addresses the organization of the study.

#### **1.2** Background of the Study

Africa as a continent consists of five regions (north, west, east, central, and south). With the exception of North African region, the remaining four regions made up the sub-Saharan Africa. The Sub-Saharan Africa comprised of 48 countries with total population of about 910.4million people (World Bank, 2013). Sub-Saharan African countries are infested with high level of poverty, corruption, bureaucratic inefficiency due to poor and weak institutional quality for sustainable human development which is caused by state failure, weak and fragile institutions (Ajayi, 2008).



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The region with a total population of 940 million (World Bank, 2013), with per capita GDP of USD\$1,426.13 and human development index (HDI) of 0.48 on average. According to United Nations Development Programme or UNDP (2014), the HDI is made up of life expectancy, educational attainment and decent standard of living.

Governments of the various countries have been in their various ways put up policies that can encourage human development via the instituting formidable and vibrant institutions. In West Africa, for instance, interstate economic policy like free economic trade zones framework for the realization of free trade zone in SSA is a noble policy objectives in the right direction. Abuja accord was signed by all the member states of Economic Community of West African States (ECOWAS) in 2012. Ekpo (2013) maintained that ECOWAS states would remain an observer in attaining the MDGs goals if they cannot improve on their institutional qualities to train quality manpower.

Similarly, in the Southern African Development Community (SADC), the Central African Economic and Monetary Community (CEMAC) and East African Community (EAC), attempts have been made with the aim of meeting up with the rest of the world in terms of institution quality which guarantee human development (UNDP, 2013). The performance and share of African major intra and inter regional economic communities to the outside world is not encouraging. In summary, intra-regional trades of Africa remain lower than expected. This is due to poor attributes of the standard of the human development components such as life expectancy, educational attainment and standard of living in SSA (UNECA, 2010).

Institutions and economic transformations through human development have become the central focus of the development agenda in the world as a whole and developing countries in general. In SSA countries, the importance of strong institutions has been at the centre stage in the region's economic policy. It is taken as the main medium through which effective human development can be realised. As it were, weak institutional quality in the society gives birth to bad governance, and this retards human, social, political and economic development of the given region. The prevalence of weak institutions could be one of the major setbacks in SSA countries, which has retarded the development efforts of the region. This has adversely affected human development efforts in the entire region, with low public service delivery (National Planning Commission (NPC), (2004); Okonjo-Iwela & Osafo-Kwaako, 2007).

In this regard, SSA is now among the poorest and least developed regions in the world and becoming the primary focus of international donor agencies. In 2001, SSA had a poverty rate of 46.1 percent, the highest regional poverty rate in the world. This region represents 29 percent of the global population living on less than USD1 per day (Nikitin, Wang, & Zou, 2007). Slight growth persisted from 1960 to the early 1970s, followed by an almost 20-year decline in economic growth.

Currently, about 1.75 billion people, living in the 104 countries covered by Human Development Report (2010), are categorized as poor. Among these, those living in SSA are substantial. The HDI score for most countries of SSA has remained consistently low since 1990, leaving this region as the poorest in the world. Thirtyfive out of the forty-two countries with low level of human development are in SSA (UNDP, 2010). The major reason for these anomalies has been attributed to weak institutional quality in the region due to poor enforcement of law and order.

#### **1.2.1 Institutional Quality**

Precisely, the interest on institutions in economic community has been particularly influenced by the work of Douglass North, a Nobel Laureate in economics. According to North (1990), institutions are manmade rules that are imposed to guide and evaluate the attitude and behavior of people and also to determine the level of their interaction to ascertain the degree of commitment to the growth and development of the society. They are made up of formal constraints such as laws, regulation and constitutions and informal constraints such as taboos, values, customs, and traditions.

In other words, institutions are structured within which human interactions take place either positively or otherwise. It is important to note that macroeconomic performance is influenced by institutional quality variables such as rule of law, property rights, corruption, and bureaucratic quality (Barro & Lee, 2013). Institutional failure occurs when the structure of state apparatus itself causes rather than reduce uncertainty (Acemoglu, Gallego & Robinson, 2014). In the African context, institutional quality is not well entrenched, in terms of implementing proper rule of law, control of inflation and bureaucratic quality. All these affect the standard of human development in the region to the extent that, there is poor allocation of fund to human capital development. Also, due to high level of corruption, funds being allocated to educational sector are not judiciously utilized to develop the human resources as proposed. This is a common practice in SSA countries, which negates the ideal socio-political and economic environment where economic activities could strive (Barro & Lee, 2013).

On the other hand, strong institutions are the reverse of the weak. This means that strong institutions entail an economic environment with formidable and reliable institutional indices that bring about human development, doing business free from government renege process (Acemoglu & Robinson, 2012). In a broad sense, institutions are expected to facilitate the generation of ideas, define property rights and contracts, stimulate innovation, lower transaction costs, correct government failure, reduce uncertainty, foster efficiency and enhance economic performance (Acemoglu, Gallego & Robinson, 2014; Barro & Lee, 2013).

The absence of the above situation gives room to civil conflicts, leads to the distortion of expenditures to the extent that military hardware is preferred in order to control unrest instead of providing facilities that can improve welfare that leads to the resultant reduction of poverty and enhancement of human development (Acemoglu, Gallego & Robinson, 2014; Zauhaier, 2012). Nevertheless, institutions are supposed to ensure the existence of checks and balances to guarantee the rights of everyone and offenders are penalized accordingly, regardless of their economic or political status. As far as SSA is concerned, the situation shows weak institutions and poor human development (Chang, 2005; Aron, 2000).

Furthermore, in spite of the need for more empirical studies on institutional quality expressed by Acemoglu (2002), there are still no rigorous studies dealing with SSA, assessing institutional quality and human development for some reasons. According to Aron (2000), notes that institutional variables are numerous and the variables chosen depend on research interest. As far as this study is concerned, the variables of interest are those that have to do with formal institutional quality variables. They are rule of law, control of corruption, bureaucratic quality and property rights. This is shown on the Table1.1.

		Institutional Quality of Sub-Sanaran Africa			
Year	Rule of law	Corruption index	Bureaucratic	Property right	
	(%)	(%)	quality (%)	(%)	
1996	27.33	32.51	28.37	45.313	
1997	27.51	32.03	28.56	44.473	
1998	27.69	31.54	28.74	42.895	
1999	28.21	33.21	28.46	41.667	
2000	28.73	33.29	28.18	39.762	
2001	28.84	33.21	28.38	39.459	
2002	28.94	33.12	28.58	39.211	
2003	28.92	30.97	28.33	38.462	
2004	27.51	29.69	27.21	37.948	
2005	27.21	29.64	25.71	35.385	
2006	28.54	31.12	25.92	35.122	
2007	28.63	31.60	26.90	33.170	
2008	28.26	31.75	27.18	33.048	
2009	28.06	31.71	26.66	31.702	
2010	27.93	31.54	26.37	35.244	
2011	27.95	31.27	26.48	30.532	
2012	27.50	29.55	26.15	30.351	

 Table 1.1

 Institutional Quality of Sub-Saharan Africa

Source: World Bank Governance Indicator, Freedom Index SSA Countries, 2013 and 2014

Rule of law measures the success of a society. An environment in which fair and predictable rules form the basis for economic and social interactions, it measures the quality of contract enforcement, the police, and the courts, as well as the development of human resources in all its ramifications (Woodberry, 2011; Iyer, 2010). Table 1.1, rule of law as stipulated in SSA countries on average, it is very low as none of the period is up to fifty percent. None of the years from 1996 to 2012, recorded up to 30 percent. The highest percentage recorded was in 2002, which is 28.94 percent. It shows that the issue of rule of law has not been properly addressed. This could be one of the reasons why investors, both domestic and foreign are frightened in operating in SSA countries, due to unknown and unpredictable behavior of the government. This issue needs to be investigated to ascertain the true picture in the region.

From Table 1.1, the issue of property right as an indicator of institutional quality is also low on average is below 50 percent. An assessment of the table shows that none of the years up to 50 percent within the period of observation. It was only in 1996 that 45 percent was recorded. The trend shows a decreasing rate of about 30.35 percent in 2012. This is true because potential investors are worried about the standard of operation of property rights law in any given region or state.

In addition, from Table 1.1, it is glaring that corruption has eaten deep into the fabric of the entire regions' economy. The rating shows that there is a very high level of corruption in the region. None of the years within our investigation attain 34 percent corruption free. This confirms that corruption is a big challenge in the SSA countries. Nevertheless, the figures display under bureaucratic quality show a rather consistent picture of the negative effects of weak bureaucratic performance on investment in terms of human capital development. As a result, the bureaucratic quality variable affects human development either positively or negatively in any given country depending on the mode of implementation of such policies (Aghdam, Yazdkhasti & Mahdavi, 2013). In Table 1.1, the highest percentage recorded was in 1998 which was just 28.74 percent out of 100 percent and the least was found in 2005 which was 25.71 percent. This shows that doing business in SSA countries is very tasking. As a result, the level of business operations in the region as a whole is generally retarded. Hence, actions need to be taken to salvage the situation. Likewise, this affects human development in the region negatively due to bottleneck processes of implementation of policies concerning human capabilities as asserted by (Mahmood, 2012; Kaufmann, Kraay & Mastruzzi, 2013).

#### **1.2.2 Human Development**

Apart from institutional quality explained above, HD is a concept that came to the limelight in the 1990s from UNDP. Human development, according to Fukuda-Parr (2011), is a process of expanding human capabilities that transform human beings to a conducive comfort zone. The essence of the publication of the HD is to look beyond gross domestic product (GDP) to have a broader definition of human capabilities. The HD is a composite measure of three dimensions of human development, the components are; living a long and healthy life (measured by life expectancy), educational attainment (measured by adult literacy and gross national income purchasing power parity, PPP income) (UNDP, 2014). The HD success story is due, in large part, to the fact that it is a multi-dimensional composite index that bridges the gap between academia and practical policy-making (McNeil, 2007).

Until the second half of 1990s, the role of human capital was mainly related only to education. Few authors recognized the importance of other factors such as health and nutrition to have an impact on real per capita income. Fogel (2006) and Barro and Sala (2003) were among the economists that examined relationship between economic growth and health, and this leads to other works focusing on the link between health, wealth and growth.

Sustained growth depends on levels of human capital whose stocks increase as a result of better education, higher level of health, and new learning and training procedure. The effect of human capital variables imply that the investment rate tends to increase as levels of education and health rise. This can only be obtainable when institutional quality is effective (Lopez, Rivera, & Currais, 2005).

Nevertheless, Tyler and Gopal (2010) vividly stated that SSA was once thought of as an area with huge potential for human and material resources. Unfortunately, SSA is now at a crossroad, representing the poorest and least developed populations in the world and becoming the primary focus of international aid agencies. In an increasingly globalized world, access to information and communications technology (ICT) is becoming more and more of a foundation of economic growth through human resources development. SSA has limited access to such forms of technology due to inadequate training of human capital and poor institutional quality. Buys *et al.* (2008) found that there is a significant digital divide within SSA. With regard to cell phone access, that is the percentage of users in the urban and rural areas, there is a wide disparity in terms of prevailing level of poverty in the region compared to other regions of the world. This can be substantiated with the Figure 1.1.

Figure 1.1 shows that SSA region remains the lowest when compared with other regions such as Arab states, East Asia and the Pacific, Europe and Central Asia, and South Asia. Many challenges remain, however, including low rate of investment due to high rate of inflation, poor implementation of structural reforms, lack of private investors' incentives, reducing poverty and unemployment, lack of strengthening public financial management, and poor and inadequate infrastructural facilities. In

other words, key constraints to growth included inappropriate economic policies, inadequate human capital development, and low levels of private investment.



Figure 1.2 Human Development Index by Countries, 1980 – 2013 Source: UNDP, 2014

Addressing these issues, Jude and Gregory (2013), are of the view that, through formidable institutional structures will be key to raising living standards, moving to a higher more inclusive growth path and attracting foreign investment which brings about economic growth and human development in SSA countries. To further buttress the issue of the poor level of HD in the entire region, the human development index for the period 2005 to 2013 is represented graphically below in Figure 1.2.



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#### Figure 1.3 Human Development Index Trend, 2005-2013 of SSA

Apart from the regional illustration, given above in terms of the level of human development attainment of SSA with other selected regions in the world, it is pertinent to the assess the trend of HDI in SSA as illustrated in Figure 1.2. Generally, on average, SSA countries record poor performance. However, there are some few countries within the region that have high HDI like Seychelles, Gabon and South Africa. Meanwhile, majority of countries in the region are below 50 percent, this is due to institutional weakness in the region and unable to implement effective institutional quality indicators as mentioned above. As a result, the trend as illustrated in Figure 1.2 shows that further studies need to be carried out to ascertain the way forward. The trend also explains the reason people in low income countries such as those in SSA countries; encounter poor health conditions (Howitt, 2005). More than billion people lack access to safe water in low and middle income countries worldwide. Moreover, diseases such as AIDS, malaria and tuberculosis

have highly affected the continent of Africa as a result of poor educational attainment, lack of healthcare facilities and lack of decent standard of living (The Economist Intelligent Unit, 2011).

In fact, Tyler and Gopal (2010) stated that weak human development is both a cause and a result of SSAs' failure to integrate into the global economy. Also, the failure to globalize has weakened Africa's human capital base. Weak funding of higher educational institutions, health faculties and then low level per-capita income for example, are the bases of the regions' predicament. The countries in SSA often lack effective leadership skills due to the poor and weak institutional structures to enforce law and order efficiently, which are needed to successfully manage the affairs for solid integration into the global economy (Bloom, Weston, & Steven, 2005).

Essential features of development especially human development, are lacking in many African states especially SSA. This is conspicuous in terms of poor quality education with aftermath effect of high illiteracy rate, poor quality of life expectancy due to inadequate health facilities, persistence poverty and other challenges such as corruption and mal-administration of funds; lack of private investors incentive due to insecurity of property rights; poor implementation of structural reforms; violence and insecurity of life (Kanayo & Jumare, 2012). With this scenario, many African states are referred to as been underdeveloped and at best a developing state. The body of Millennium Development Goal Strategy (MDGs) lamented the poor state of African states development approach and attributed it to the level of governance and quality of institutions as reported by (Anger, 2010). Many African economies have enormous potential for growth and human development with their vast natural resources of oil and gas resources, vast agricultural land, solid minerals, and abundant human resources. These potentialities can only be tapped if the entirety of human development is properly harnessed through formidable and effective institutional quality in place which is lacking in SSA countries (Acemoglu & Robinson, 2012).

Education, as one of the components of human development, a key to building human capital, and human capital is vital for building a nation. The East Asian miracles are primarily due to their emphasis on basic and technical education. Statistics shows that there is no industrial society today with an adult literacy rate of less than 80 percent (Naritomi, Rodrigo, & Assuncao, 2012). Education is not only a way to better income and employment opportunities for all or a source of economic growth for the nation, but also plays a pivotal role in improving other social indicators. It leads to better life expectancy and health care, smaller family norms, greater community and political participation. It also leads to reduction of inequality, poverty elevation and good governance. It is a pre-condition to establish democracy in a country (Acemoglu, 2004). The above scenario can only become a reality if institutions are tasked to carry out their responsibilities. It could be inferred that institutions serve as augmenting variable in the human development of SSA countries (Nunn, 2010). It is this missing link that motivated this research. In addition, considering the case of SSA countries, where natural resource abundance constitutes both growth losers and growth winners, and the main difference between the success story and the cases of failure lays in the quality of institutions (Mehlum, Moene, & Torvik, 2006). African countries with low quality of human capital, poor

educational system and lack of adequate health care due to weak institutions suffer a double resource curse.

Asiedu (2006) opined that governments in SSA countries usually believe that lessons from East Asia or Latin America do not apply to them because their situation is different. Hence, an empirical analysis of this nature that focuses on human development inclusive of its components within the African continent and institutional quality at this present dispensation has greater credibility among African governments in this direction.

In conclusion, SSA is currently experiencing a very difficult state of human development as a result of poor and weak institutional quality prevalence in the entire region. In fact, there is inevitable need to focus the search light to prevalent problems confronting SSA region such as extreme poverty level, weak institutional quality, and high rate of corruption, low level of human development, poor economic freedom and political instability. All these are the factors that militate against the entire region from seeing the limelight of development since the colonial period till date.

#### **1.3 Problem Statement**

Institutions in Africa are very underdeveloped. For example, ineffective dispute resolution mechanisms in cases of breach of contract have limited the expansion of trade and market development in the region. The small scale of the formal productive sector has in turn, prevented the development of complementary institutions. Also, ineffective institutions make Africa a high risk and unattractive environment. Weak institutions also affect the poor disproportionately. Corruption, a highly regressive tax, hits the poor the hardest who have to pay bribes for services due them. Property rights are often most ill-defined when it applies to informal housing and assets. Whilst poorly designed regulatory institutions reduces the provision of infrastructures to the poor.

African countries are often plagued by underdeveloped institutions which makes doing business in Africa costly. It is not only the formal institutions which are fragile but also the weak forms of social capital (informal rules and customs) which affect economic outcomes. SSA countries are associated with polarized societies; often along ethnic lines, leads to conflict and instability. It also leads to poor public service provision because of disagreements on the types of public services which are required and who should be the beneficiaries. This notably occurs in Africa, a continent which many observers have pointed out that the fragmentations of their political economy, including their institution of governance, as one of the main weaknesses for the continent not being able to afford their development strategies (Fabro & Aixala, 2013). Gallego (2010) asserted that in terms of growth and human development of the citizens, SSA countries have performed poorly as compared with other regions in the world.

The problem facing SSA can be ascertained in the area of weak institutions which metamorphose to poor level of human development, in terms of poor standard of living, low level of educational attainment and poor health facilities which lead to low level of life expectancy. Also, the challenges has affected other sectors of the economy in terms of low level of industrial contribution to GDP, high rate of corruption, political instability, high rate of poverty and even high cost of doing business. These problems mentioned above are conspicuously facing SSA countries. And the origin of these multiple problems emanated from low quality of human development which needs to be addressed. In addition, the HDR (2014) ranked the SSA region as the worst in the world in respect of human development indicators due to the fact that 60 percent of the population lives below the USD1 per day and life expectancy remains very poor except for few countries like Seychelles, Botswana, Gabon and South Africa.

Acemoglu and Johnson (2005) argued that countries would be able to overcome the challenges of low human capital development and poverty only when they have appropriate institutional quality. The right institutions can only be developed in an open pluralistic political system with competition for political office, a widespread electorate, and openness to new political leaders. It is man-made institutions that determine that a country is poor or rich. They further argued that when you combine rotten regimes, exploitative elites and self-serving institutions with frail, decentralized states, you only get poverty, conflict, and even outright failure as is seen in SSA countries (Acemoglu, Gallego & Robinson, 2014). In many African countries, this situation creates economic stagnation and brings in its wake civil wars, mass displacement, famines, and epidemics, making these countries poorer today than they were in the 1960s (Acemoglu & Robinson, 2014).

Furthermore, the quality of institutions speaks a lot about the human development in the region. According to Owoye and Bissessar (2012), leadership fluctuations are recurrent, and, in almost all circumstances, these leaders desire to govern anywhere institutions are very feeble or do not exist so that they cannot be held accountable for their fraudulent conduct and misuse of office. With the nonexistence of operational checks and balances, corruption remains unrestricted over the past three or more decades in Africa with virtually lack of human development and established quality institutions (Acemoglu & Robinson, 2012).

Thus, the linkage between institutional quality and human development remains an issue that requires further investigation because the existing literature concerning this matter is very scanty. Several studies on the institutional quality are based on economic growth generally. Very few studies, to the best of the researcher's knowledge, used human capital as a proxy for human development such as Klomp and Haan (2013). They used political variables like democracy, political instability and governance as independent variables. In the case of Tridico (2007), he used human development to assess government effectiveness and political stability. However, as far as this research is concerned, the study assessed the institutional quality variable such as per capita income, educational attainment and life expectancy. These are new dimension to assess the impact of institutional quality on human development which forms the gap of this study.

In spite of the on-going debate on the potential effect of institutional quality on both growth and human development, a definitive conclusion to this topic is far from emerging. Punch (2006) argues that if the research is the assessment of an intervention designed as a solution to some problem, the assessment or evaluation can best be structured as a series of research questions. Thus, the central research question of this thesis is formulated as stated below.

#### **1.4 Research Questions**

There is thus the predictable need to look at the major hurdles experienced in the SSA countries as highlighted in Section 1.3. To resolve the issues raised, the following specific research questions have been developed.

- i. What is the impact of institutional quality on human development in SSA countries?
- Does institutional quality have a significant effect on standard of living in SSA countries?
- iii. Has institutional quality significantly affected educational attainment in SSA countries?
- iv. To what extent has institutional quality impacted on life expectancy in SSA countries?
- v. What is the importance of institutional quality on human development in lowincome and lower middle income in SSA countries?

#### **1.5** Objectives of the Study

The general objective of this study is to assess the impact of institutional quality on human development in SSA countries. In order to achieve this, the following specific objectives are focused on:

i. To investigate the effect of institutional quality on standard of living in SSA countries.

- To examine the impact of institutional quality on educational attainment in SSA countries.
- iii. To evaluate the impact of institutional quality on life expectancy in SSA countries
- iv. To assess the impact of institutional quality on human development in lowincome and lower middle-income in SSA countries.

#### **1.6** Significance of the Study

This study serves as a contribution to the body of knowledge on the ongoing debate on the role of institutions on human development. In addition, the study will be significant to policy makers, academia and other stakeholders like UNDP, World Bank, African Union (AU) and New Partnership for Africa's Development (NEPAD), respectively. Policy makers need the information in order to design and implement policies and programs to sustain the institutions that enhance human development in their economies.

The study is essential and significant since it is meant to provide solution for the strengthening of institutional quality and its impact on human development. The findings of this study goes a long way to assist the government and policy decision makers on the policy direction to improve on the quality of institutions and enhance rapid human development through the growth of the educational attainment, healthcare facilities for the citizens and improve the standard of living of the people in the region.

The study highlights the view that institutions are the ultimate determinants of human development in the region in particular and the world in general. Employing Generalized Method of Moments (GMM) model as panel data techniques gives more understanding since the research is on cross- sectional data which cut across 48 countries that make up the SSA countries. The study differs from previous studies in the area of coverage and method of analysis. Moreover, the study serves as an asset to governments, policy makers, international donors, and development agencies that work in SSA in providing clear justification on the fight against institutional weakness and human development to reexamine (or strengthen) their policies and strategies. The study contributes to existing literature on the issue by estimating the impact of the institutional quality on human development in SSA countries which is the region under investigation In addition, the policy implications from the study equally is of importance to other stakeholders like UNDP, World Bank, AU and NEPAD in respect of development policies and programs that affects the region.

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#### **1.7** Scope of the Study

This study was conducted on SSA countries for the period of 2005 to 2013. The period was chosen due to insufficient data availability and it also includes years of financial crisis and the evolution of democracy in SSA countries. As a result, out of 48 countries that made up the SSA countries, 46 were selected due to data availability. Furthermore the countries were divided into low income countries and this is made up of 25 countries. These includes; Benin, Burkina Faso, Burundi, Central Africa Republic, Chad, Congo Democratic, Ethiopia, Eritrea, Gambia, Guinea, Guinea Bissau, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Niger, Rwanda, Sierra Leone, Somalia, Tanzania, Togo, Uganda and Zimbabwe.
This group of countries is within the income bracket of USD785 or less. While the Lower middle-income countries are 21 in numbers and they are; Angola, Botswana, Cape Verde, Cameroon, Comoros, Congo Republic, Cote d'Ivore, Gabon, Ghana, Lesotho, Mauritania, Mauritius, Namibia, Nigeria, Sao Tome, Senegal, Seychelles, South Africa, South Sudan and Zambia, their income bracket is USD786 to USD 3,115 (World Bank, 2014).

The study focused on institutional quality like rule of law, corruption, bureaucratic quality and property rights and human development which is aggregated and disaggregated such as standard of living, educational attainment and life expectancy. The study investigated institutional weakness due to state failure and its impact on human development. This study also employed both static and dynamic panel data model analysis like previous studies by Efendic and Pugh (2015), Zauhaier (2012) and German-Soto and Flores (2015).

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### **1.8** Organization of the Study

The study is organized into five chapters. Chapter Two covers conceptual issues, the extensive review of theoretical and empirical literature and Chapter Three is made up of theoretical framework which serves as the underpinnings of the research work, model specification, justification of variables, sources of data, and method of analyses. Chapter Four covers data presentation, analysis and implications of findings; while Chapter Five concludes the study with policy implication of findings, limitations, summary, and recommendations.

# CHAPTER TWO LITERATURE REVIEW

### 2.1 Introduction

This chapter comprises of the review of literature that is related to this study. Specifically, the theoretical review of institutional quality and human development, its type, role, theory and quality are reviewed in detail. This is followed by the review of the concept of human development. Theoretical issues on human development were also surveyed. The empirical reviews of institutional quality and human development including that of institutional quality and standard of living, educational attainment as well as that of institutional quality and life expectancy are examined. Finally the research gap and conclusion of the chapter is stated.

### 2.2 Theoretical Review of Institutional Quality and Human Development

Institutions have become a major field of interest in the study of economic performance and human development. The existing studies range from explaining the existence of positive relationships between institutional quality and economic growth (Pejovich, 1999; Chong & Calderon, 2000; North, 2003; Ebben & De Vaal, 2009) investigated the relationship between institutions and more complex aspects such as human development (Tsai, 2006; Germana & Vania, 2011; Acemoglu, Gallego, & Robinson, 2014). As far as this section is concerned, it involves studies on the definition, types, theory and roles of institutions.

#### **2.2.1** Definition, Types and Roles of Institution

There is no unequivocally acceptable definition of institution. A few generally acceptable definitions, however, exist in literature. However, institution has been viewed differently in the literature. According to Nobel Laureate Douglass North (1990), a widely accepted broad definition of institutions is that, institutions are humanly devised constraints that structure human interaction. In other words, North (1990) defined institutions as the formal and informal constraints on political, economic and social interactions. Institutions are the rules of the game of a society or more formally are the humanly-devised constraints that structure human interaction.

They are composed of formal rules (statute law, common law, regulations), informal constraints (conventions, norms of behavior, and self-imposed codes of conduct), and the enforcement characteristics of both. Organizations are the players: groups of individuals bound by a common purpose to achieve objectives. They include political bodies (political parties, the senate, a city council, a regulatory agency); economic bodies (firms, trade unions, family farms, cooperatives); social bodies (churches, clubs, athletic associations); and educational bodies (schools, colleges, vocational training centers), as asserted by North (1990).

According to World Bank (1991), institution has been defined as rules, enforcement mechanisms and organizations. It cover the public bodies where the state discharges its most fundamental responsibilities, maintains law and order, invest in essential infrastructure, and raise taxes to finance such activities. In addition, Hodgson (2006)

defines institutions as durable systems established and embedded with social rules that structures social interactions. This definition encompasses both formal and informal institutions in broad sense. In line with this definition, Fapounda (2012) opined that institutions are formal and informal rules that are essential for economic performance outcome, which varies from one country to another depending on the institutional setting.

In another scenario, Ekpo (2013) maintained that effective institutions provide for predictable and stable patterns of interaction in all spheres of life. Institutions are regarded as long lasting entities that its speed of change may not be immediate rather, it takes time to adjust. This is more peculiar with the informal institutions which rely on natural law. Nevertheless, formal and informal institutions forms the basic structure of a given society but do not dictate the social, economic and political relations and interactions of those affected by them (Leftwich & Sen, 2011; Leftwich, 2007).

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From the above definitions, there are two main types of institutions namely, informal and formal institutions. Basically, the distinction between informal and formal institutions is given by contract management through rules or relationships. In every society, the existence of informal institutions prevailed before the emergence of formal institutions.

According to Soysa and Jutting (2007), an informal institution is an institution that is difficult to identify measure and quantify because it operates outside the official channels. The participants operate institutions at free will, without any regards for official rules and regulations. Soysa and Jutting (2007) further stated that informal institutions

traditionally attached to the old social system of the societies and operate within the socio cultural settings of behavioural regularity. In the actual sense, they argued that informal institutions integrate the social life of the people into the economic activities of the society and it has existed long before the formal institutions are created; and they are quite distinct from people's culture. This is what makes Casson, Giusta and Kambhampati (2010) observed and posit that institution is seen as norms and customs regulating social and economic life of the people. Informal institutions provide the opportunities for people to survive in the economy as long as they embrace informal rules as mentioned above, which become the new institutions for allocation and distribution of national wealth.

Furthermore, the prevalent of informal institutions in SSA countries can be accepted from the view of Stiglitz (2000). He is of the view that markets are thin and incomplete; a thick network of interpersonal relations functions to resolve the allocative and distributive issues and this is exactly what prevails in African society today. According to Fapounda (2012), the growth of informal institutions in SSA has been buffered by the dominance of informal sector in the economy. The informal sector has provided a strong link for the existence of formal institutions. On the other hand, Olomola (2010) concluded that informal sector accounts for low productivity, poor quality of products, inadequate production equipment, and insufficient technical skills. In an ideal society, it will be difficult for these organisations to operate because of the aforementioned characteristics without adjusting to formal rules (Stiglitz, 2000). The traditional economy exists on informal rules; the people are guided by the attitudes and social norms in such a way that regulate their behavior and attitude and aspirations.

Meanwhile, the formal institutions emerged when the societies become formalized and the various sectors of the economy grow to the point of having complex systems of networks of social interactions and administration. Hence, there is need for external controls to avoid deterrent to stable market system and enforce reliable obligation. In other words, formal institution is an institution that is established based on rules, constitutions and contracts which are protected by authorities with high cost in terms of legislation, regulation and application. As explained by North (1990), Osabuohien, Efobi and Salami (2012), Roland (2004), Seidler (2011) and Soysa and Jutting (2007), a formal institution deals with written codes of conduct, law, frameworks initiated to regulate the economic and social interactions by structuring incentives for exchange and 'rule of the game'.

In any given state, official regulations are set up by the societies to enforce strict compliance to behavioural standards expected from individuals, firms and the government; and such rules are needed for even growth of the economy. The economy exists in efficiency when the established rules functions effectively and the various agencies saddle with the responsibilities of enforcing the rules are fulfilling their tasks. From different perspective, Acemoglu and Robinson (2010) and Stiglitz (2000) referred to formal institutions as modern capitalist brought about by industrial development which paves way for the need to have systems of established rules for ensuring coordination and compliance with minimum standards.

Specifically, the existence of formal institutions in SSA countries as opined by Seidler (2011) could be traced to the time of colonial masters. The colonialist had to introduce formal institutions due to the level of urbanization, constraints on political power and integration of colonial labour markets. Hence, constitutions, official laws, regulations and standards are introduced to the society to replace the social norms and attitudes that regulate the behaviour to marginalised state. Property rights, information exchange, conflict resolutions, social trust and general management become formalised and rules are codified to moderate the affairs of human interaction (Acemoglu, Gallego & Robinson, 2014).

Notwithstanding, the region is not without institutions before the colonial era but the institutions existed on social norms and customs provided by the various ethnics in the countries. These institutions though strictly unwritten provided the sustainability for the African society met by the Europeans (Seidler, 2011). Europeans make everything to be formal and the people were made to participate in general election to vote the candidate of their choices; obtain driver licences before driving on the road; attend formal education before being certified to hold some administrative and professional positions; have certificate of incorporation before establishing an organisation and certificate of ownership before having the assurance of ownership of a piece of land.

In addition, there is a specific relationship between formal and informal institutions. As noted by Dantama and Olarinde (2013), that informal institutions are further promoted in the region by the operators in the formal institutions. Some of the organisations in the formal institutions enter into informal sector to carry out certain activities. Notable in this respect is the informal employment contracts; many organisations recruit workers and subject them to contractual tenures and wages with no access to benefits entitled to them. In other words, formidable institutions play a major role in both human and economic welfare of any given society. Re-evaluating the role of institutions in supporting economic growth and human development is arising from the existence of basic institutional arrangements such as private property, guaranteed contracts, the rule of law in a free society, things advocated by the Acemoglu, Gallego and Robinson (2014); Hodgson (2006).

Either formal or informal institutions both play major roles in societies. Among the major role of institutions in a society is to reduce uncertainty, encourage human development through the accumulation of knowledge from education and its application to technology. Institutional failure occurs when the structure of state itself causes rather than reduce uncertainty. This can happen when property rights are not enforced and hence, are uncertain and private force is used in settling disputes; thus the rule of law lacks certainty. Indeed, institutional failure occurs when the oligarchic patrimonial structure of the state itself causes rather than reduces uncertainty. In this situation, property rights are not enforced and there is lack of effective bureaucratic quality. In this kind of condition, high level of corruption is experienced and uncertain. Such

environment, private force is used in settling disputes; due to the fact that rule of law itself lacks certainty (Frank, 2000; Shirley, 2008).

In another scenario, institutions protect property rights; reduce the cost of doing business, leads to innovation and reduce the risk and cost of corruption in the society. Institutional reforms played an important role in the transformation of both developed and developing economies (Effiom, 2011; Osabuohien & Ike, 2011). The importance of institutions in determining economic performance of countries has been duly documented in the literature (North, 1990, 1994). The prevalence of ineffective and weak institutions has been blamed for the dismal economic performance outcome of many developing countries. In SSA countries, weak institutions played a major role in aggravating the persistent crises in the economy a formidable challenge to national transformation and development (Ekpo, 2009).

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Additionally, institutions are forces that shape the actions of people in the societies and act as enforcing agents in compelling people to behave in accordance with the acceptable behavioural pattern. This makes Roland (2004) to assert that institutions have no meanings if the constraints they impose are not enforced. It is the enforcement of constraints that established the durability of the social system created by the societies. The societies become weakly organised when the institutions lacked the capability to exercise the constituted authority they have in leading the societies into a coherent wholeness. In other words, institutions themselves are human devised mechanisms which are designed to mode relationships among economic agents (Osabuohien, Efobi &

Salami, 2012). Institutions are formed from the need for societies to establish themselves as accountable and efficient in the social interactions. Human relations must be guided especially in the use of economic resources to have societies that are free from poor performance of economic agents. This is strongly supported by quality institutional settings (Frankema, 2012).

Convincingly, institutions are not necessarily created to be socially and economically efficient; rather, they are created to serve and to preserve the interests of the people. Institutions, therefore, can be said to be efficient as long as they are committed to their original aims as being reliable and efficient to the welfare of the people. North (1990) considers well-organized institutions to bring about reduced transaction costs. The most important role of institutions is that of reducing the uncertainty in order to determine a steady framework of social relations. That is to say, institutions are means by which to reduce uncertainty in economic relations; and again, institutions remedy market failures. In another scenario, North (1990) opined that institutions are not necessarily created to be socially efficient; rather at least the formal rules are created to serve the interests of those with the bargaining power to devise new rules.

Also, institutions make the complex processes of human interaction more understandable and more predictable, so that coordination between different individuals occurs more readily. In social chaos and angrily situation, where the division of labour is impossible because information monitoring and enforcement are lacking often insurmountable and credible commitments cannot be made and people remain the prisoners of each other's opportunism, the only way out is a transparent institutional quality in place (Bardhan, 2005).

Nevertheless, institutions are to protect domain of individual autonomy from undue interference from outside for example from others who wield power. Institutions thus protect individual freedom, which is one of the fundamental human values of property rights, protect owners from outside interference with the free uses of their assets and create a domain in which property owners are free (Hariri, 2012).

Furthermore, institutions mitigate interpersonal and inter group conflicts. Conflicts between independently acting individuals is at times inevitable but they are resolved amicably through a strong formidable institutions in place. Rule of conduct, delineating spheres of autonomous action, can serve this function. At least they allow for non-violent conflict resolution, for example, by providing mechanism of adjudication of conflicts (Rodrik, 2008). This leads to the next section which has to do with the theory of institutional quality.

### 2.2.2 Theory of Institutional Quality

Although detailed research on the role of institutional quality in economic growth and human development is fairly recent, the importance of institutional quality was recognized centuries ago as demonstrated in the following quote taken from one of Adam Smith's lectures. "Little else is requisite to carry a state to the highest degree of opulence from the lowest barbarism but peace, easy taxes, and a tolerable administration of justice: all the rest being brought about by the natural course of things" (Smith, 1755) in (Carlos, 2016).

This long-recognized link did not take center-stage in the study of economic development until about 15 years ago, when the correlation between institutional quality and economic performance in terms of human development became more apparent as demonstrated by Ndulu and O'Connell (1999) for the case of SSA.

They observed that authoritarianism is closely associated with poor economic performance. Institutional quality allows for participation of the citizens in the political process and the general running of public affairs is associated with a feeling of empowerment, which in turn enhances productivity. In his Nobel Prize lecture, James Buchanan (1986) argued that economists should look at the "constitution of economic policy to examine the rules and the constraints within which political agents act." He implicitly suggests that institutions are not developed when their benefit exceeds the cost from the view point of the "common good." In an attempt to answer the question of why some countries have institutions that tend to retard economic growth, a great number of authors have examined the link between political structures, institutions, economic institutions and economic performance.

Political theories suggest that institutions are shaped by those in power to transfer resources to themselves (Acemoglu, Johnson, & Robinson 2004; La Porta *et al.* 1999). Acemoglu, Johnson and Robinson (2004) argued that groups with different interests

prefer different institutions, and the group that has more political power, ultimately decide on what institution prevails. The question asked here is to examine how these institutions impact economic outcomes. One of the answers could be the rent-seeking and state capture hypothesis. According to this hypothesis, the politically powerful elite, whose interests might be at odds with that of the general public, engages in rent-seeking activities. As such, they try to change the status quo. It is important to note that rent-seeking and the quest to protect future rents, lead to inefficient allocation of resources from the social welfare perspective.

Further, resources are devoted to wasteful rent-seeking activities instead of productive activities (Kimenyi & Tollison, 1999). Dethier (1999) argues that the "efficiency of the use of public resources depends on incentive schemes of public organizations and that reform should focus on designing schemes that ensure credible commitment and implementation of policies that maximize social welfare." Institutional quality improves human capital and efficiency in the use of resources, which in turn enhances economic growth vis-à-vis human development (Dethier, 1999).

Political institutions design the legal system that defines the rules that govern exchange. In a political process, different interest groups compete for political power or economic rents within the framework of the rules defined by the legal system. Without an appropriate incentive structure within political institutions, rules may be designed to benefit particular groups with a political advantage at the expense of society as a whole. Without basic legal protections say of property rights and against government expropriation of private property, private investment growth is bound to decline and so per capita income growth. Private investment, especially foreign investment, is also discouraged by poor quality bureaucracies that are susceptible to capture by interest groups. This in turn retards economic growth. As far as democracy affects growth are concerned, there seems to be no conceptual or theoretical agreement on the nature and direction of the effect.

In a democratic political process, interest groups pressure policymakers to pursue policies that favor these particular groups. Often at the expense of the general good if this enhances their chance of retaining power through re-election. On the other hand, dictatorships may pursue policies that favour interest groups that maintain them in power, and thus protect their future rents. So, since no government is insulated from pressure from interest groups, the question of which political regime foster the rule of law, property rights, bureaucratic quality and minima corruption is theoretically unclear (Przeworski & Limogi 1993).

### 2.2.2.1 Measurement and Indicators of Institutional Quality

The concept of institutions has received a great deal of attention in recent literature. The term institutional quality refers to a wide range of social structures affecting economic outcomes; contract enforcement, property rights, investor protection, the political system, and the high effectiveness in enforcement of rule of law in the society, is considered as quality institution which invariably leads to rapid growth of human development (Acemoglu, Johnson & Robinson, 2001, 2002). Indeed, the type and quality of institutions make a great difference to how well the members of a community are able to

satisfy their basic economic aspirations and how fast they can contribute to the growth of the economy (Muro & Vicari, 2012).

The overall importance of institutional quality for human development has been emphasized in previous studies such as De Muro and Tridico, (2008) and Acemoglu, Gallego and Robinson (2014). There is less agreement on how to measure the quality of institutions. By its very nature, the quality of an institution is very difficult, if not totally impossible, to quantify, in contrast to many 'policy' variables, such as the tariff rate or the rate of inflation. Therefore, institutional qualities are often measured by some indexes based on qualitative judgments. For a long time, researchers who undertook empirical research on the effects of institutional quality had to rely on relatively few sources, such as the World Bank governance indicator (WGI), the Global Competitiveness Report (World Economic Forum, 2005), Transparency International and Heritage International.

While many of the organizations publish a large variety of relevant indicators, they retrieve their information from executive and resident opinion polls and thus measure the perceived level of institutional quality. For the majority of these indicators, they do not use factual information to measure differences in institutional quality across countries.

## 2.2.2.2 Theory of Imitation, Adaptation and Innovation in Institutional Development

According to Chang (2005), institutions are seen as technologies for social management. This is related to catch-up framework in understanding institutional development in the developing countries. That is to say developing countries can import institutions from the developed countries and thereby operate a better institution without passing through what the developed countries experienced in terms of time and sacrifice. The popular example, as far as this theory is concerned, the establishment of central banks in foremost developed nations and the replicate in transition and developing countries. According to Chang (2005), that it took the developed world many years to develop their financial sector. And that, most market-oriented economies until central banking were established, the situation was regarded as harmful and seen as moral hazard on the part of the borrowers. It is important to note that the developed countries have introduced the central bank relatively at lower levels of economic development in their time. This has given the developed countries at comparable levels of economic development in their rudimentary stage of development.

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This theory is vital in the sense that virtually all economies in the world are involved in the construction of central banks which serve as banker's bank to other banks and the nations in general. In order words, all financial transactions are domesticated through the central banks of any economy.

In addition, talking about government and governance, the developing countries are supposed to enjoy higher standard of political democracy, human rights and social development. This is unlike what developed countries experienced to attain such level of development. Thanks to their institutional, educational, healthcare and technological imitation. Through sound educational attainment, guarantee assurance is there for the developing world to attain high standard of economic development. However, it is possible that importing the formal institution may not produce the same outcome because the country may be missing the necessary supporting informal institutions or the reverse.

In all these, imported technology needs to be adapted to the local conditions in other words; some degree of adaptation is needed in order to make imported institutions work. For instance, Japan realized that they need to import Western institutions from them to become an industrialized nation. In their own case, after scanning the western world, they imported institutions that they thought could give them their desired goal but with suitable local adjustments. In fact, institutional innovation has been a major source of economic success in a lot of countries such as Japan, some Asia countries like Hongong, Singapore and China. Notwithstanding, culture and institutions cannot change at will (Chang, 2005). Imported institutions most command some element of political legality among the citizens. And to gain legal backing, it should have some quality with the culture and institutions already in existence in the domicile countries.

### 2.2.3 Qualities of Institutions

Increasingly, investors take into account the quality of institutions as an important factor in assessing the risk of business operations. This is because the institutional framework creates both incentives and disincentives for economic transactions and business decisions. Firms are generally keen to invest in countries which protect property rights, have a developed legal framework and enforced rule of law, well developed public services without burdensome bureaucracy, redundant regulation or corruption. It is also important that government policies are transparent, the judiciary does not hinder business and there is strong protection against crime and fraud. Institutional failures on the other hand, significantly raise transaction costs for firms if public institutions fail adequately to enforce property rights, protect business contracts or fail to ensure adequate information to all market agents (Dixit, 2006; Budak & Goel, 2006).

Ajayi (2002) opined that the quality of institutions can affect technical progress. Technical progress in turn influences the efficiency of human development. The rate of technical progress is no longer summed constant across countries but it is influenced by policies and quality of institutions. More so, there exists a threshold level of basic infrastructure, education, rule of law, property rights, reduced corruption and adequate bureaucratic quality that must exist before enabling environment for economic activities can take place. It is important to note that these thresholds are sensitive to the quality of institutions which is driven by human development.

All human dealings require a degree of certainty. Individual actions become more predictable when people are bound by rules which are also call institutions (Easterly, 2001). Institutions are of course needed to facilitate economic life. Indeed, the type and quality of institutions make a great difference to how well the members of a community are able to satisfy their basic economic aspirations and how fast they can contribute to the growth of the economy (Muro & Vicari, 2012).

Also, institutions reduce the costs of coordinating human actions or activities in a way that brings better understanding and proper human interaction. The general presumption is that institutions have a great impact on how people attain their economic height and other objectives that people normally prefer institutions, which enhance their freedom of choice and economic wellbeing (Norman & Stiglitz, 2012).

In addition, Dixit (2006) observed that appropriate institutions serve to reduce coordination costs in complex system to limit and possibly resolve conflicts between people and to protect individual domains of freedom. In other words, institutions need specific qualities such as certainty, generality and openness that is, universality. Rules that are not universal but are designed to obtain specific purposes in their coordinative, normative function and often overtax the knowledge of the rule makers.

A number of people today live in countries that have failed to create or sustain strong institutions to foster exchange and protect property. In these countries, most bargains are enforced using informal mechanisms that are threats to reputation, exclusion from kinship, ethnic or other networks with little trust to trade with people not subject to these mechanisms. In the work of Bardhan (1997), explains that the state is either too weak to prevent theft of property by private actors, or so strong for economic exchanges that the state itself threatens property rights.

As a result, agents face a high risk of not being able to reap their return from investing in specific knowledge, skills or physical capital as a result reduces the level of development

in such countries. Apart from the general institutional quality discussed above, it is vital to look at the primary qualities of institutions that is essential for this study namely; rule of law, corruption perception, transparent property rights and bureaucratic quality. As far as this research work is concerned, the attributes of institutions determines the effectiveness and its enforcement in the society which invariably leads to rapid growth of human development.

### 2.2.3.1 Rule of Law

Rule of law constitutes or is among the vital components that make up the institutional environment variables. It is taken to be the laws, regulations, state policies and ethics which serve to argument the support the changing from its formal status to market based oriented economy (North, 1994). In essence, rule of law entails the extent to which both life and property is protected and the masses have legal right to seek justice whenever their right is infringed upon (Ahn & York, 2011; Fogel, 2006).

In addition, with effective rule of law in operation, the issue of property rights is protected and the perceptions on the incidence of crime, the effectiveness of the judiciary and the enforceability of contracts are guaranteed. A high rating on the rule of law translated by proper safeguarding of property rights and enforcement of contracts creates an optimistic and attractive business environment for local as well as foreign investors. This scenario is corroborated in the works of Hall and Jones (1999) and Acemoglu, Johnson and Robinson (2002, 2014). Any given society with a strong rule of law is expected to have formidable political, social and environmental institutions, with good court system. This creates the atmosphere for orderly succession of power as well as the law abiding citizens that comply with the established institutions which implement laws and adjudicate disputes whenever it arises (Osman, Alexiou & Tsaliki, 2012). Rule of law serve as an engine room which promotes peace and security and safety net for human development. It also creates an environment conducive to groom economic productivity that guarantee the protection of property rights, costless transaction cost, and stability of financial prudency (Fogel, 2006; Osman, Alexiou & Tsaliki, 2012).

For the rule of law to be effective, according to Cross and Donelson (2010), are of the view that it requires an independent, strong, non-corrupt judicial institution. That is to say, an efficient, transparent court system that has freedom to adjudicate, enforce, protect and recompense of contracts that support property rights. A reliable justice is able to sustain hope and can redress at any situation when contracts agreement are violated either in the side of the state or in the private sector.

Insofar rule of law serves as a foundational aspect of economic freedom, essential for achieving economic progress and societal prosperity (Heritage Foundation, 2013). Rule of law, is taken to be one of the most reliable and predictable institutional environment variable, especially when it empowers investors with all it takes to build confidence in the state and it enhances rapid human development. Rule of law is a sound foundation for human development in the developing countries especially the SSA region. The rule of law creates an enabling environment which brings about peaceful resolution of conflict and ensures transparency and integrity in the relationship between the government interactions with individuals (Feulner, in Heritage Foundation, 2013).

### 2.2.3.2 Secure Property Right

Property rights measure is derived from two institutional variables namely; risk of repudiation of contracts by government and risk of expropriation of private investment. The risk of repudiation of contracts indicator addresses the possibility that business transactions and negotiations faces the challenges of modification in terms of adjustments, postponement, or scaling down due to reality of income flows, budget cutbacks, indigenization policy, a change in government, or a change in government economic and social priorities. The risk of expropriation indicator evaluates the risk of outright confiscation and forced nationalization of property. Countries with economic freedom and policies that provide security of property rights, non-confiscatory taxes and enforcement of contracts promotes development and experiences better human development capabilities (Gwartney, Holcombe & Lawson, 2006; Osman, Alexiou, & Tsaliki, 2012).

Furthermore, Property rights consist of the set of formal and informal rights available to transfer resources. According to Elisa and Peluso (2011), a full set of private rights to property consists of the right to use the asset in any manner that the user wishes, generally with the caveat that such use does not meddle with someone else's property, the right to exclude others from the use of the same asset, the right to sell the asset, the right to derive income from the asset, and the right to bequeath the asset to someone else

within the owner's choice. As a result, the ability to accumulate private property and wealth is fundamental bedrock which motivates investors and workers in a market economy. This can be realized through sound human training and development (Lobsiger & Zahner, 2012).

Transparent judicial systems are vital for the protection of property rights, not just for the wealthy and powerful, but also for average citizens. Their incentive to work hard and save for the future which depends on whether they have confidence in the political and economic system and believe that it protects their earnings and possessions. The rights to keep and dispose of property must be protected so that it is available to provide a better life for their families. Bontis and Serenko (2009) knew that human beings and the markets are vital ingredient created, though inherently imperfect, are vital for the efficient functioning of an economy. As a result, all citizens and market participants are guided by a moral code, exercise self-restraint, and be governed by laws that are derived from that moral code. In other words, they must avoid indecent behaviour. Barro (2012) opined that a strong system based on human capital accumulation, norms and values in the society, guarantee the right to acquire, hold, and dispose of private property. This would create diffuse sources of wealth which leads to political and economic checks and balance as a result of sound mind.

### 2.2.3.3 Corruption

Meanwhile, corruption in Africa has remained diverse. That is, authors' remains divided as to a comprehensive definition of corruption, but an instructive definition was given by the African Development Bank (ADB) (2010). ADB defines corruption as behaviour on part of officials in public and private sectors, in which they improperly and unlawfully enrich themselves and or those close to them or induce others to do so, by misusing the position in which they are placed. Also, World Bank defines corruption as the abuse of public office for private gain (Bardhan, 1997).

Kauffman, Kraay and Mastruzzi (2005) and Lambsdorff (2008) define corruption as the abuse of public office for private gain. This definition lies in the consideration that corruption is typically a public sector vice. Incentives for corrupt behaviour therefore exist whenever a public official possesses substantial discretionary power to allocate or influence the allocation and or procurement of government goods, works and services.

From the researcher point of view, corruption is generally defined to mean the abuse of trusted office for personal or private gain. This definition is applicable to corrupt practices in both private and public sectors of any economy. Most often, corruption is associated with an organization, individuals, or a group of individuals with monopoly power over a good or service and the discretion to decide who receive it, and the group or individual does not care about accountability. Generally, the greater the element of discretion that is allowed individuals in positions of trust, the greater the probability that power could be used to someone's personal benefit at the expense of others (Lambsdorff, 2008).

Corruption openly weakens the foundations of national institutions that are supposed to foster the development process itself. Pervasive corruption in an economy can reinforce existing economic and social inequalities as well as intensify the depth of poverty and reduce the access by the vulnerable segments of society to the basic needs of life. This will be the case when privileged citizens are able to influence the allocation of resources away from pro-poor programmes in such areas as health, education and similar services (Alkire, 2002).

It is important to note that the analysis of the political determinants of corruption is made more difficult because of pre-existent or endogenous constraints. Noman and Stiglitz (2012) posit that politicians may exhibit rent-seeking tendencies, not because they are inherently corrupt, but as a result of the demands made upon them by their constituents, or because of the absence of appropriate checks and balances due to weak institutional quality, manifesting in weak judicial structures.

There seems to be a broad consensus that corruption in whatever form, is detrimental to overall economic performance in the long-run. Adverse consequences of corruption on the development path in both human and material are documented in the literature (Jalilian, KirkPatrick & Parker, 2007). These researchers concludes that corruption openly weakens the foundations of national institutions that are supposed to foster the development process itself such as provision of good educational system that can produce manpower for the different sectors of any given economy such as the health sector,

agricultural sector and the industrial sector which are the basic sector for main development.

Also, Lambsdorff (2008) and Popsilaghi and Mutu (2013) attest to the fact that evidence on the negative impact of corruption, is enormous, it bring about reduction in economic efficiency and capital formation, thereby stultifying growth. Furthermore, North (1990) and Kuniedia, Okada and Shibata (2011) concluded that pervasive corruption in an economy can reinforce existing economic and social inequalities as well as intensify the depth of poverty and reduce the access by the vulnerable segments of society to the basic needs of life. This is the case in SSA countries, where privileged citizens are able to influence the allocation of resources away from pro-poor programmes such as health, education and similar services. This scenario painted here is prevalence in SSA countries that is within the framework of this study.

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It is important to note that corruption imposes additional costs on growth process as it diverts scarce resources away from viable investment such as human resource and health care development. It increases the degree of uncertainty and risk associated with investment and drives away new investment (Fabayo, Mauton, & Adesile, 2011). To further substantiate this proof, ADB (2013) stressed that corruption is the main obstruction to human development because it weakens the rule of law and reduces human development capabilities in SSA countries.

To this end, corruption deters viable investment especially in educational attainment from being enforced in SSA countries. It does not only distort the efficacy of human capital productivity, it also crumbles the entire economy as seen in majority of SSA countries struggling with effective and quality of education (Mahmood, 2012; Orubu, 2013). A very good example is Nigerians seeking both master's and doctoral degrees across the globe such as the United Kingdom (UK), United State of America (USA), Malaysia and Ukraine to mention a few. All these are as a result of weak institutional quality on human development in the region in general. Hence, it calls for proper investigations in a study of this nature.

### 2.2.3.4 Bureaucratic Quality

Bureaucratic quality measures the mechanism for recruitment and training; autonomy from political pressure, and strength of expertise to govern without drastic changes in policy or interruptions in governments circle (Goel & Nelson, 2010). That is, rules of the game that binds economic agents to do the right thing at the right time for explaining differences in growth performance across countries. High corruption and red tape, inefficient public services, low reliability of services and in general, low bureaucratic quality, lower investment all these weak institutions dampens human development in the region. A theoretical exposition is given by North (1989) and empirical studies on the relationship between bureaucratic quality and economic performance were conducted by Knack and Keefer (1995), Brunetti, Kisunko and Weder (1998) and the World Bank (1997).

The issue of bureaucratic quality entails regulations that guide the operational mechanisms for recruitment and training; autonomy from political pressure, and strength of expertise to govern without far-reaching changes in policy or interruptions in government's administration of the country or the economy (Acemoglu, Gallego & Robinson, 2014). It is measured through a proxy from recruitment and training, autonomy from political pressure, and strength to govern without drastic changes in policy or interruptions in governments.

Prochniak (2013) concludes that, three subjective variables are used to measure the quality of government administration. Two of these are bureaucratic quality (country risk) and bureaucratic delays (business risk). Countries score highest on these dimensions when the bureaucracy has the strength and expertise to govern without drastic changes in policy or interruption of governmental services. Mulligan (2012) is of the opinion that such bureaucracies have established mechanisms for recruitment and training, and some autonomy from political pressure. A bureaucracy is therefore likely to score low when bureaucrats exercise substantial discretion in a subjective manner (Evan & Rauch, 2000).

It is important to note that, if regulations are excessively difficult to implement, economic outcomes may be more unproductive especially if they are administered by an incompetent bureaucracy, the system may find it difficult to realize the goal and aspiration of that economy in terms of development in both human and material. In another scenario, Ekpo (2013) opined that poor institutional quality is one of the main factors responsible for poor human development in SSA countries. Nevertheless, the quality of public service, the competence and independence of civil service and the credibility of the government's policies are equally a vital issue in terms of quality of institutions. Also, it refers to the soundness of the policies implemented as well as the quality of the services provided to the population such as education and healthcare facilities. The educational and health status are important determinants of the human capital of a country. The human capital endowment is in turn of prime significance for the growth path of the country as a better educated and healthier labour force are more productive and their standard of living also enhanced (Mahmood, 2012).

### 2.3 The Concept of Human Development

In academic discourse the concept of development is a controversial issue. There are conflicting definitions and interpretations of the term, which are influenced by history, discipline, ideological orientation and school of thought. It entails changes in the political, social and economic structures as well as institutional inefficiency. This cut across the area of poverty, inequality in terms of illiteracy, life expectancy and a condition of life that caters for both material and spiritual needs of the people (Acemoglu, Gallego & Robinson, 2014).

In the same token, Todaro and Smith (2011) explained development as a multidimensional dynamic process, in which institutional, political, cultural, geographic and technological indices plays vital role for sustainable development. Formally, human development is defined as a process of enlarging people's choices, achieved by

expanding human capabilities and performance (UNDP, 1990). Human development is strongly linked with quality institutions, in order to bring to the limelight human capabilities, formidable institutions are needed. Moreover, institutions need to be rightly structured, providing opportunities to the populace in general. Values and social norms such as equality, solidarity and co-operation shape formal institutions and choices. In turn, capabilities are enlarged by institutions (Sen, 1985). In fact, institutional policies, consequence of prevalent norms and institutions, would allow for improving basic capabilities for human development. Such as leading long and healthy life, being knowledgeable and having a decent standard of living. If basic capabilities are not achieved, many choices are simply not available and many opportunities remain inaccessible (UNDP, 1999).

In 1990, the UNDP then published a new extensive measure by means of which intercountry, as well as intertemporal comparisons of living standards can be undertaken. This international measure of living standards is the HDI. The need to develop a new index for measuring living standards arose largely due to the observation that measures based solely on national income do not necessarily cover all crucial aspects of economic welfare. From this logic, HD was then described as a basic process of development, where the primary objective is to build a society with high level of literacy, good health and decent standard of living (Barro & Lee, 2013).

Mahbubul Haq (2003) opined that the HD concept was institutionalized and became accepted in economics and development literature as an extension of human capabilities,

a widening of choices, an enhancement of freedoms and a fulfillment of human rights. Even, Fukuda-Parr (2003) collaborated the same view with Tridico (2007) reported that HD is a process of enlarging people's choices, achieved by expanding capabilities and functioning in terms of living standard, health and education (UNDP, 1990).

Furthermore, Sen (2008) collaborates that human development as a process of expanding the real freedom that people enjoy which requires the removal of major sources of obstacle such as poverty, tyranny, poor economic status, systematic social deprivation, and neglect of public facilities as well as intolerance or over activity of repressive states. Sen further maintains that for the people to be agents of their own development, it requires advancement in the five distinct types of freedom, namely, political, economic, social opportunity, transparency and protective security.

Similarly, Human Development Report (1990) assert that HD is about the expansion of people's freedom to live long, healthy and creative lives to attain their goals and aspirations in life by actively involved in shaping development equitably and sustainably in its geographical environment. It is related to the qualitative changes in economic wants, goods, incentives, institutions, productivity and knowledge for the upward progress of the entire social system (UNDP, 2010).

In addition, Fukuda-parr (2011) in a study to assess real income, basic needs and human development perspectives, observed that the policy implication of growth in the prioritizing of capabilities is a consequent shift in focus from social and economic

policies to political institutions and processes. While the human development approaches, is concerned with governance for social justice, governance that enlarges the participation, power, and influence of the people, especially those that are disadvantaged, such as women, ethnic minorities, and the poor in the society.

Human development is measured from three components, namely; standard of living (measured through per capita income that is per capita GDP expressed in purchasing power parity in dollars (PPP); educational attainment (measured through school enrolment or adult literacy) and life expectancy (measured through infant mortality or life expectancy) (Fukuda-Parr, 2011).

It is of interest to note that education improves institutional quality, as effective institutional quality enhances educational attainment. It determines the innovation capacity and the dynamic efficiency of institutions. In fact, sound educational attainment brings about quality healthcare that reduce infant mortality and improves life expectancy. Not only that, sound education can improve and transform the economy and leads to higher standard of living. On the contrary, some of the variables identified in the literature either they do not seem to perform at the optima mainly due to weak and poor institutional quality or their effects are indirect, through the aforementioned variables (Acemoglu, Gallego & Robinson, 2014; Saulawa, 2014; Amin, 2013).

It is important to note that the role of human development in any society cannot be overemphasized. Ekpo (2013) opined that developed countries exhibit high level of industrial development, through innovative capacity, its economy is more on technology and manufacturing instead of agriculture. This is due to the fact that they have been able to improve and develop their human resources through the provision of the basic human capabilities. Factors of production such as human capital and natural resources are fully utilized resulting in an increase in production and consumption which leads to a high level of per capita income. And this transcend to higher level of educational attainment and good healthy living with decent and comfortable standard of living (Fosu, 2013).

### 2.4 Theory of Human Development

As far as this research work is concerned, and in relation to human development, human capital development theory, is the main theory to be discussed due to its relevance to this research. Human Capital Development Theory (HCDT) implies the attainment of knowledge and scholarly stock in the course of the means of education exposition, for increase of productivity, efficiency, performance and output. HCDT is relevant at every stage of human surroundings and human society: family level, community level, individual level, organization level, and national level, international level and institutional settings.

A prominent figure in economics and economic school of thought in the person of Smith (1937) laid the foundation for what is now referred to as HCDT. However, is already known as a theory right before the publicity given to it by the modern economists, such as Schultz (1961), Becker (1964) and Mincer (1974). This is as a result of the fact that those scholars have identified the importance and benefits of HCDT. In the light of this,

human capital theory is seen from the economic point of view and largely used to explain economics as an application of investment in education and health (Harbison, 1971).

First and foremost, human capital is the stock of knowledge, practice, social and personality attributes, including creativity, embodied in the ability to perform labour so as to produce economic value (Mahroum, 2007). Alternatively, human capital is a collection of resources that is, all the knowledge, talents, skills, abilities, experience, intelligence, training, judgment, and wisdom possessed by the citizens in a given region or country. These resources are the total capacity of the people that represents a form of wealth which can be directed to accomplish the goals of the nation.

The transformation of human resource into highly productive human capital is actualized through intensive educational training and skill acquisition. This process is termed human capital formation (Fukuda-Parr, 2003) The problem of scarcity of tangible capital in the labour surplus countries can be resolved by accelerating the rate of human capital formation with both private and public investment in education and health sectors of their national economies (Fukuda-Parr, 2011). However, institutional quality serves as an umpire for the full development of human activities in the society. Moreover, human capital has been acknowledged as the most important and appropriate ingredient for development (Noorbakhsh, Paloni, & Youssef, 2001).

In HCDT, the main message has to do with the quality of labor that is the key wedge of the main facet of supervision and productivity. For that reason, having acknowledged labour as the most essential factor of production and HCDT as an imperative arrowhead that beacons on the significance of labor as most favorable element of productivity, then the study or steady review of the theory of HCDT is indispensable undertaking (Cohen & Soto, 2007; Noorbakhsh *et al.*, 2001).

HCDT is planned on background, whereby when injections are made into it in terms of education acquisition over years, the buildup of education injections could increase the feat, capability and efficiency which brings in returns on investment. The essence of the theory HCDT is mainly investment on health facilities, education and their various forms. The aftermath of this, is development in terms of amplified capabilities. In line with German-Soto and Flores (2015), HCDT is favorable and imperative in the explanations on the workings of improved economic payback, outputs, performance and amplified capability as a result of growth of intellectual stocks. Also, Brown and Guzman (2014) opined that Governmental groupings of mankind such as community groupings, national groupings business organization groupings, have always existed for economic benefits.

Centuries after the work of Adam Smith (1976)' in his 'Wealth of Nations', two school of thought of human capital development emerged (Friedman, 2006). The first school of thought draws a division line among human being and acquired skills themselves, the acquired capacities were known as capital itself. The other school of thought sees human being as capital and as such taken as assets of any given organisation (Friedman, 2006; Woodhall, 1997). The first school of thought can be seen in the direction of cognitive growth towards economic capacity increase, in the sense that this recognizes and differentiate acquired capacities that is the skills from the human being himself. The

second school of thought applied holistic approach to human capital development theory that is, this school of thought recognizes the total human. This includes the intellectual or understanding competence, which is a function of education, health and the well-being of the human being who acquire the skills (Wang & Swanson, 2008).

Nevertheless, importance of health in HCDT border largely on the efficient and costeffective submission of the acquired acquaintance or cognition, for example labor with soaring level education and skills attainment to be healthy, to be competent and make effective use of the acquired skills. On the other hand, if the human resource is not in good health, then the economic significance of knowledge acquired cannot be effectively utilized (Wang & Swanson, 2008). This is the singular reason why education and health are indivisible entity in HCDT. According to German-Soto and Flores (2015), education is the pedestal, the scholarly skills and property acquired to be able to function well to the extent of contributing to the enhancement in economic activities. While health, when in good status, is able to safeguard the acquired intellectual skills (Nigerian National Planning Commission, 2004; Nwafor & Salau, 2011; Wang & Swanson, 2008).

Considering the theoretical implication, Woodhall (1997) observed that HCDT is based on the belief that expenditure and investment is of high benefit and influential in increasing productivity in the general population. As a matter of fact, it has been sufficiently theorized that a country with high educated population tends to be very productive people. To buttress this fact, McLean (2006) argued and give examples of nations in the world that are not endowed with natural resources as such but highly
educated population in terms of skill acquisition; today they are known as nations of developed economy. Examples of countries like Japan and Singapore as documented by McLean (2006). HCDT mainly emphasizes the process by which educational attainment increases productivity and efficiency of labor and in the long run the overall quality of labor as a result of investments in human beings.

Therefore, countries have to pursue qualitative mass education. An increased education stock of the entire population brings about innovation and technology that transforms the economy. Also, educational development towards human capital development at individual level is rewarded with high income earning. In other words, it is important for both individuals and countries to blend into the modern society; and education is the major tool for this (Becker & Tomes, 1994).

In the same vein, health care performs a maintenance function in HCDT. With sound health, it brings about multiplier effect, in the sense that it prevents sickness and increase life expectancy of the entire population for effective performance of the acquired human capital stock. Health function in human capital model can be said to be waste avoiders. Health serves to ensure that intellectual stocks in the brain of people are adequately supported by right functioning body system for optimum usage (Becker, 1994).

In addition, HCDT is a very important theory in the sense that it has been able to set countries or nation apart into blocks in terms of level of development. There are blocks of developed countries, developing countries and less developed countries in the world (Crook, Todd, Woehr & Ketchen, 2011). Also, the attributes of development have been distinguished by HCDT in relation to the status or indicators such HDI which include level of literacy, innumeracy, health and income as it correlates with human development in countries of the world. Therefore, human capital development should be pursued at every level of human society; at individual level, community level, organizational level national level, regional level and global level. This will make the entire world a good place to live in by all and sundry.

Since the history of HCDT, there have been emergences of different models from various experts and researchers; however of prominent of these models are the Solow and Lucas Models of Human Capital Development (Hansen & Prescott, 2002). The main components of Solow Model and Lucas Model of Human Capital Development are education, health and technology. Nevertheless, the links through which institutions impact factor accumulation, particularly human capital, is still the subject of an ongoing debate in the academic arena (Dias & Tebaldi, 2012). However, the theoretical review of institutional quality and human development is discussed below.

The importance of institutional quality, in regards to human development has its root right from the time of Smith (1776). However, Acemoglu, Gallego and Robinson (2014) opined that why is it that in terms of innovation, some countries are more innovative than others even though they invest huge amount of fund into the educational system, and still people save for the sake of accumulation of physical capital. Also, the theoretical bases on the insight on why institutions differ across inter regional and intra-regional countries

and they evolve (Acemoglu & Dell, 2010). Cheema and Maguire (2001) pointed out that the quality of governance which can be proxies as institutions matters to human development because without transparent and accountable institutions and the capacity to formulate and implement the policies and laws to enable a country to manage its markets and its political life, development is not sustainable.

According to the UNDP (1999), that when there is active involvement of stakeholder in the formulation and implementation of institutional quality based on the principles of participation, accountability, transparency, equity and the rule of law, it tends to emphasize the importance of high-quality and responsive institutions, as well as decentralize public involvement. Such participation in the works of Omonga (2012) contributes to the development of inclusive communities, the promotion of peace and social harmony, high level of social responsibility, market regulation, and the provision of essential services. All these are instrumental to human development.

It is important to note that economic transformation refers to the structural changes in the economy and their major driver is human development. It involves allocation of resources to productive sectors of an economy and increasing contribution of manufacturing sector to GDP, declining share of agricultural sector to employment generation, transition from rural to urban economy and rise of industrial sector (Sackey, 2011; UNECA, 2013). In a similar vein, Todaro (2011) also viewed economic transformation as a process whereby the contribution of the manufacturing sector in an economy supersedes the contribution of the agricultural sector. African economies are

largely dependent on agricultural sector. This dependence has rendered their economies vulnerable to adverse external shocks and high growth volatility (Melamed, 2013).

The importance of structural transformation in accelerating human development has long been recognized in the development literature. Economic transformation is associated with the following; a steady and sustained growth in human and material resources. However, low growth volatility, reduces vulnerability to external shocks, employment generation, poverty reduction thereby leading to sustainable human development (UNECA, 2011; Adeyemi, 2011). African economies need a transformation strategy with greater emphasis on industrialization and agricultural modernization through comprehensive human development.

Also, Deardorff (2010) opined that human development plays a major role in the intervention of the government in three categories; correction of market failures (distortions); redistribution of income; and non-economic objectives. The three categories reveal the inadequacy of free markets to allocate scarce resources evenly. Market failure comes in four different categories; including coordination failures, merit goods, public goods and information failures. For example, externality makes the marginal costs and/or marginal benefits faced by private sector decision- makers depart from the true social marginal costs and benefits (Deardorff, 2010). However this can be corrected through sound educational foundation and the general human development.

In addition, the actual economic transformation comes through institutional quality indicators, with formidable human development capabilities (Saulawa, 2014). In other words, the attainment of economic height is possible with respect to human development all over the world. Hence, human development no doubt has become a farmable ideology that propels any economy to sustainable development. Also, Fabro and Aixala (2013), that literature on institutions has contributed theoretical arguments that identify potentially determinant factors of institutional quality in poor countries. Among them are colonial experience, educational attainment, life expectancy and decent standard of living.

Furthermore, Germana and Vania (2011) opined that the more educated and trained a citizen in the society, the more he or she earns a higher wage if the institutional context has a number of formal or informal institutions (collective bargaining, welfare state but absent of corruption and rent seeking). In other words, the kind of knowledge each society is endowed with varies according to its institutional framework and this induces individuals to develop certain capabilities that boost the status of the individual. This can only be attainable through sound and adequate educational system.

In addition, Fabro and Aixala (2013) reports that tropical areas in Africa and Central and south America, came up with less flexible and less adjustable regulations and institutional quality within the economic and legal scopes. Conversely, in countries under British influence, which coincide with warm areas such as North America (Canada and the USA), Australia, New Zealand and South Africa, institutions were more adaptable and

had more property rights protection, corruption control and rule of law with price some have to pay for prolong inhabitation. However, this concept was not applicable to all the colonies under the colonial rule. For instance, Osman, Alexiou and Tsaliki (2012) maintain that some countries colonized by Britain like Nigeria and Ghana, the issue of property rights protection, control of corruption and rule of law is unresolved before they regained their independence in the 60s.

Proponents of institutions such as Dell (2010), Gallego (2010), Savoia, Easaw, and McKay (2010) and Yasar, Morrison and Ward (2011) argued that legal and political reforms are at the origin of success in human development performances. This issue has been observed by Acemoglu, Johnson, and Robinson (2001, 2002). Iyer (2010) posits that former colonies that were chosen for European settlement do better today due to the higher quality of the institutions and formidable human development in the form of educational attainment and healthcare facilities they received in the colonial era.

People's lives and capabilities symbolize the focal space in evaluating human development (Alkire, 2010). In fact, regarding this, it is important to note that the Human Development Capability Approach (HDCA) is not a theory to explain poverty, inequality or well-being, but it provides concepts and normative frameworks within which to conceptualize, measure and evaluate these phenomena, as well as the institutions and policies that affect them bearing in mind the role of human development (Robeyns & Crocker, 2009). From an overview of the connection between institutions, both formal and informal, and human development, the literature has already shown the role of

institutions in fostering human efficiency (Williamson, 1985), better organisation (Aoki, 2001), education (Bardhan, 2005), social capital (Kornai, 2006) and economic growth (Olson, Sarna & Swamy 1998). Most of these aspects are instrumental to human development, while others are constitutive of human development. The propensity of individuals to be active citizens to participate in all dimensions of social life is affected by the institutional context they are in (Muro & Vicari, 2012).

According to Sen (1999), individuals live and operate in a world of institutions. Our opportunities and prospects depend crucially on what institutions is all about and how they function. Not only do institutions contribute to our freedoms, their roles can be sensibly evaluated in the light of their contributions to our freedom (Tridico, 2007). Thus, Johnson (2009) asserted that, the main focus of mainstream economists has been on particular rules, such as property rights, regulatory institutions, macro-economic stability and social insurance as the main institutions which enable the economy especially markets transactions to work well in collaboration with human development.

De Muro and Tridico (2008), in their work explained that institutions are not necessarily created to be socially and economically efficient; conversely they are created to serve and to preserve the interests of some social groups and to create new rules. Institutions, therefore, can be said to be efficient as long as they are committed to their original aims for sustainable economic growth which produces at the same time human development.

Similarly, Dias and Tebaldi (2012) ascertain that the size of the educational sector is endogenous and depends upon the quality of the institutions. An institution's quality directly affects the productivity of workers in the educational sector, either by rewarding them correctly or not. This is achieved by imposing conditions that allow them to fully use their knowledge or not, by making educational infrastructure available or not. The advantage of this modeling strategy is that the human capital accumulation function is derived from an endogenous process. Indeed, Germana and Vania (2011) opined that the investment in education does not necessarily produce private benefits to the worker in terms of higher wages alone, but it surely creates positive externalities for the society as a whole. Not surprisingly then, every society is willing to invest in education in order to take advantage of its benefits.

On a more serious note, Christian missionaries play an important role in the development of the educational system in former colonies, perhaps because; [they] wanted people to read the scriptures in their own language (Woodberry, 2004; Gallego & Woodberry, 2010; Nunn, 2010, 2013; Woodberry, 2012; Frankema, 2012). To some extent, it has brought a wide gap in terms of educational attainment across the former colonial regions of the world. Many forces determined the location of mission stations within countries. First, as Nunn (2013) discusses for the case of Africa, geography and climate played a significant role. Second, there is path dependence in terms of previous missionary work (Nunn, 2013). Third, variation was created because missionaries followed different strategies when faced with competing religious denominations (as noted by Gallego & Woodberry, 2010). Generally speaking, only countries which experienced an increase in the human development level had sustained economic growth. In other words some countries can increase their GDP while neglecting education, health and income distribution (Saulawa, 2014). However, countries which invest in education and health increase both human development and growth. As documented in Acemoglu and Dell (2010) for Latin America and in Gennaioli, LaPorta, Lopez-Silanes and Shleifer (2013) more broadly, there is huge regional inequality within countries of SSA. This is in consonance with the average educational attainment of the inhabitants of the region.

### 2.5 Empirical Review of Institutional Quality and Human Development

Empirically, the relationship between human development and institutional quality is discussed here in terms of its component one after the other to examine how they influenced institutional quality. Kaufmann, Kraay and Zoido (1999) used a two-stage least squares (2SLS) method to find the direct effects of institutional quality on three indicators of development outcomes, namely standard of living in terms of per capita income, infant mortality, and adult literacy. For a sample of more than 150 countries over the period 1997-1998 and using six dimensions of governance (political stability and absence of violence, government effectiveness, rule of law, control of corruption, regulatory quality and voice and accountability), they found a strong positive correlation between governance and human development for all six aggregate indicators.

In another scenario, Gupta, Davoodi and Tiongson (2000) analysed the relationship between corruption and health care and education services for 128 countries covering time period 1985-1997. Using OLS and a 2SLS, they found that a high level of corruption increased the infant mortality rates and dropout rates in primary school. Similarly, Akcay (2006) employed three different indices of corruption. Using OLS for a cross-country analysis of 63 countries, he found that corruption has a negative and statistically significant effect on human development (as measured by HDI).

The connection between institutions, both formal and informal, and human development, in the literature has already shown the role of institutions in fostering economic efficiency (Williamson, 2000), better organisation (Aoki, 2001), education (Bardhan, 2005), social capital (Roland, 2004) and good governance (Prabir, 2010). Most of these aspects are instrumental to human development, while others are constitutive of human development. In other words, development would bring about improvements in health, education and other collective goods, and it is boosted mainly by a process of institutional change, social dynamics and cultural change (Engerman & Sokoloff, 1997).

Economists have ascertained that securing property rights are very vital to economic activities in any given region which bring about material and human development. Among the studies undertaken by different economists concerning property rights is that of Acemoglu and Johnson (2005). They investigated at the time of colonial era as instrumental variables for property rights and legal origin for contracting institutions using 60 countries as sample size. Their finding shows that property rights concept is a pillar for development than contracting institutions. Also, North and Weingast (2000), assessed the institutional changes in England especially when the government cancelled

the issue of confiscation, and repudiation in governance process, property rights institutions gained much ground and this brought dynamic growth and development in the region.

Bruhn and Gallego (2012) argued that a reliable economic institutional framework is a basic pre-condition for sustainable human development and economic growth. De Muro and Tridico (2008) also maintain that sound institutions provide the right tools in order to accumulate and to distribute resources generated by GDP growth as a result of investing in human development. Likewise, the capability approach by Sen (1999) has always attached much relevance and attention to the role of institutions for human development.

In fact, according to Sen (1990) in his concept of human capabilities, that institutional policies, consequence of prevalent norms and institutions, would allow for improving basic capabilities for human development, such as leading long and healthy life, being knowledgeable and having a decent standard of living. If basic capabilities are not achieved, many choices are simply not available and many opportunities remain inaccessible (UNDP, 1999). In a nutshell, the vital role attached to institutions, serves as mediators between wealth creation and human development. In other words, institutions serve as a conduit pipe to reduce uncertainty in economic relations; determine a steady framework of social relations and again, remedies market failures (North, 1990; De Muro & Tridico, 2008).

In order to have a more complete institutional framework, both World Bank (WB) and European Bank for Reconstruction and Development (EBRD) indexes are used by De Muro and Tridico (2008). Then, both indexes are put in relation, cross-nationally, with human development levels in a multiple variable regression. The results are very interesting, and quite in line with Bardhan's (2005) findings. The dependent variable is the HDI in 2002 for 26 transition economies, while the independent variables are the EBRD average indexes in 2002 and the WB average indicators between 1996 and 2002 for the same countries. The variables have a positive and statistically significant impact in the multivariable which comprises of government effectiveness and political stability. This result validates the thesis according to which countries that enjoyed relatively high political stability and governments able to give effectiveness to appropriate policies and institutions had better performance in terms of human development.

The second regression also by De Muro and Tridico (2008) confirms that in fact the impact on HDI is almost entirely explained by government effectiveness and political stability. In this empirical investigation, HDI was taken as dependent while political stability, regulatory quality, rule of law, voice and accountability and control of corruption are the independent variables. The researcher employed OLS and the result for 15 years of transition. The empirical result shows that governance and appropriate institutions were the key factors of development for the best performing economies. Hence, proper institutional indicators are vital for a well-organized state, country or region (Tridico, 2007).

The point is that if governments are ineffective, if the state is politically unstable, the formal economic institutions are weaker, and informal institutions and spontaneous forces prevail. As explained, the informal institutions may also be illegal and or negative for development, such as crime, corruption, oppression, power abuse, social exclusion and so forth. People will suffer a reduction in their opportunities and capabilities. Human development will decline, economic relations will be weakened and transaction costs will increase, with negative effects on the economy as a whole.

Other works done by Ali and MacDonald (2011) and Libman (2006), came out with the same consensus that secured property rights is among the main determinants that attracts foreign investors to most host countries. Though, the level of effectiveness of such rights differs from country to country and from region to region. Governments of host countries do come into agreement with multinational corporations for mutual benefit such as manpower training overseas which invariably leads to human development in general.

Acemoglu, Gallego and Robinson (2014) on their investigation on variation in missionary activity like protestant across 670 regions within former European colonies, investigated the role of human capital in the long-run regional development. Also documented in Acemoglu and Dell (2010) for Latin America and in Gennaioli, LaPorta, Lopez-Silanes and Shleifer (2013) support the view that there is a huge regional imbalance within countries and this is correlated with the average educational attainment of the populace of the regions.

A great deal of empirical evidence shows that some countries in developing and in developed economies have relatively high GDP per capita but very low indicators of development such as literacy, access to drinking water, rate of infant mortality, life expectancy, education and so forth (UNDP, 2000). This is in part due to the fact that wealth is unequally distributed. On the other hand, there are cases of relatively low GDP per capita and high indicators of development in countries where income is more equally distributed (Collier & Gunning, 1999).

In another scenario, Kornai (2006) opined that, countries with a higher level of human development performed better in terms of GDP growth and recovery than countries with a lower level of human development. Therefore, a higher level of human development seems to be the major cause of faster economic growth. In contrast, countries which did not implement institutional policies of this kind did not increase their level of human development and economic growth was neither rapid nor sufficient to recover the pre-1989 level of GDP per capita.

In addition, Gennaioli, Lopez, LaPorts and Sheifer (2013) in their investigation of a model of the spatial allotment of income per capita and human capital with externalities, and suggested that schooling has a large impact on per capita income at macro than the micro level. This is due to the contribution of sound entrepreneurial skills. Also, Engerman and Sokoloff<sup>\*</sup> (2011) on their popular work, emphatically stress how the diverging progress paths of the Americas over the past 500 years was associated with early circumstances which led to different institutions in diverse parts of the Americas.

Furthermore, Acemoglu, Gallego and Robinson (2014), based on their investigation on a new cross-country of the effects of institutions and human capital on GDP per capita tallies with previous works using same sources of variation in institutions. Acemoglu, Johnson and Robinson (2012), and following Woodberry (2013) used variation in missionary activity as a determinant of long-run in human capital in the former colonies. For the fact that the protestant missionary played an important role in setting up educational institutes was encouraged by their desire to promote the reading of the scripture which may have had long impact on schooling as also reported by Becker and Woessman (2009).

In another scenario, Easterly and Levine (2012) illustrated econometric analysis using OLS regressions; here all the share of the population of European descent in previous colonies in the colonial time is certainly correlated with income per capita in 2005. As the researchers impute measures of human capital or institutions along with European arrangement, the former two are significant while the latter is not, signifying that both may be channels via which European arrangement was working. It is important to note that, the procedures of the percentage of the population of European descent are averages taken centuries after colonization and are outcomes of the incentives and opportunities to colonize which depended on institutions amid other things potentially checkmating GDP today.

Conducting a study on SSA, Wietzke (2014) observed that places occupied by colonial missionaries as at the colonial era, tend to have more educational facilities than other

areas that was not conducive for their inhabitation. The relic is still there till date. This can be found in Madagascar, Nigeria, Ghana and even Cameron. However, many advantages related to education were lost due to migration of educated adults to more dynamic districts in areas of former colonial exploitation leading to brain drain, lacking human resources for human development in those countries. These results are consistent with endogenous processes of human capital formation that are often mentioned in the literature on economic geography and urban agglomeration (Acemoglu & Dell, 2010; Gennaioli, LaPorta, Lopez-Silanes & Shleifer, 2013; Glaeser & Gottlieb, 2009; Lucas, 1988; Romer, 1990).

In addition, Germana and Vania (2011), conducted an empirical analysis on a data-set of 11 European countries observed over the period 1996 – 2006. The quality of institutions in this research is proxied by governance indicators of Kaufmann, Kraay and Mastruzzi (2013) the results confirm that institutional quality has an impact on the quality of the workforce as countries with better quality institutions are also the ones with the quality workforce. This is as a result of enabling environment for rapid human development capabilities, in terms of quality education and healthcare in place.

It is important to note that countries with good institutions will grow faster than countries with poor institutions. Also that institution set the pace for human capital accumulation. Human capital then fosters technology and output growth which increases the returns to human capital accumulation and induces non-educated workers to invest in education and become educated. This generates a self-perpetuating accumulation mechanism which can be enhanced by improving institutions (Acemoglu, Johnson & Robins, 2012), Furthermore, over the historical development of countries, those that undertake institution reforms in the form of a better political system, more efficient economic policies, and an improved legal system should experience sizable positive effects on physical capital and on human capital accumulation as reported by Mahmood & Rehman (2012).

The major finding emanating from Dias and Telaldi (2012), that a society rewards the human capital employed in the educational sector according to its social return, or the average effective cost of producing human capital. From their findings, they revealed that the quality of institutions plays a major role in determining the social return of human capital. For instance, a society with poor institutions attributes a low value to human capital, which causes the effective wage of educated labor employed in the educational sector to decrease. This is consistent with Dias and McDermott (2006), among others. In other words, exogenous institutional reform may contribute to the human capital accumulation process and by extension improves economic productivity (Acemoglu, Johnson & Robins, 2012; Easterly & Levine, 2012).

The result of this analysis, explains the variation of HDI in relation with the considered governance indicators. The results are significantly correlated with the dependent variable HDI. The correlation results confirm that HDI is higher in countries which are better governed and less corrupt, where political stability is higher and where citizens trust and abide by the rules and benefit from a higher degree of involvement in political life, freedom of expression, freedom of association, and a free media. In other words, the

issue of human development and institutional quality is very vital because, they serve as a conduit pipe for the general wellbeing of the citizens, states, region and the entire world.

It is important to note that HDI had brought together the production and distribution of commodities and the expansion and use of human capabilities in their measure (Sen, 1999). The HDI is constructed on the basis of three dimensions: economic, health, and knowledge. These three dimensions are supposed to evaluate the society's overall development level and quality of life. As far as this research is concerned, the researcher will examine the relationship between the institutional qualities and the three components that make up the human development capabilities.

## 2.5.1 Institutional Quality and Standard of Living

It is important to note that Neugarten (2015) opined that there are six indicators to measure the standard of living of the people in the country: GDP per capita (in PPP USD), telephone lines, television sets, radios, electric power consumption per capita, and energy use per capita. Over the years, there seems to be a consensus that these indicators are paramount to the goals and aspirations of countries. Gyimah-Brempong (2002), using a sample of African countries and corruption to proxy for institutional quality, finds that corruption affects economic growth indirectly through decreased investment in physical capital and in education. He also finds corruption to be positively correlated with income inequality.

For instance, Kurtz and Schrank (2007), demonstrate that countries receive high score in WGI for having high standard of living and not necessarily for improving the quality of

institutions. They find that the bureaucratic quality indicator in the WGI is significantly related to two year average growth rates prior to the date of the institutional quality. However, their finding is disputed by Kaufmann et al., (2007) who show that minor changes to Kurtz and Schrank's empirical specification completely invalidate their results. Kaufmann *et al.* point out that after controlling for long-run economic performance of countries, the short-term growth that Kurtz and Schrank claim is driving halo effects is no longer significant.

In another scenario, widespread and rather outcomes oriented measures of institutional quality are the indicators of political instability that Alesina, Ozlar, Roubini and Swagel (1996), and Barro and Sala-I-Martin (1994) employed in their seminal growth studies. Investigated the relationship between indicators of political instability and economic growth where political instability is interpreted as adverse influences on property rights. For a sample of 78 countries in the period 1960-1985, they used his objective measure which involves counting the number of civil wars, coups, strikes and political assassination and found that these variables are negatively and significantly associated with growth rates.

Also, Alesina, Ozler, Roubini, and Swagel (1996) analysed the relationship between political instability (defined as the propensity of government collapse and per capita GDP growth. For a sample of 113 countries in the period 1950-1982, using the number of assassinations, death from mass violence and coups as the basis for their indicator, they

found that their political instability variable represents a negative and statistically coefficient in their growth model.

Furthermore, Mauro (1995) used data for 67 countries and tested three variables constructed from business international indicators based on perceptions drawn from business international overseas correspondents: corruption, a bureaucratic efficiency index and, a political stability index. He focused on the effect of corruption on growth and found it to be negatively related to growth over the period of 1960-1985. He also analysed the effects of a perception-based index of bureaucratic efficiency as well as that of political stability and found them to be positively and significantly related to growth.

Most prominent among these researchers on composite indicators are Campos and Nugent (1999), Kaufmann *et al.* (1999) and Ahrens and Meurers (2002). These researchers basically suggest the results of earlier studies on the effect of governance on economic growth. For example, Campos (2000) uses OLS from data covering 25 Central and Eastern European and former Soviet Union countries from 1989 to 1997. He found that governance, especially the rule of law is positively related to growth in the transitional countries. This studies have been supported by a considerable number of other studies using data sets (Rodrik, Subramanian & Trebbi, 2002; Dallor & Kraay, 2003; Naude, 2004; Fayissa & Nshiah, 2013).

Fayissa and Nshiah (2013) employ quartile regression to investigate whether the impact of good institutional quality on economic growth depends on the conditional economic income distribution of countries. This study employs panel data for 28 SSA countries for the years 1990-2004. The results of the alternative models suggest that institutional quality has a positive and significant impact on growth, regardless of the proxy for institutional quality. A common characteristic of the conclusions reached by all of these studies is that, institutional quality variables such as rule of law corruption, bureaucratic quality, the stability of property rights and democracy are directly correlated with economic growth.

Nevertheless, Green and Moser (2013) investigated the role of property rights institutions on economic growth at a local level with two rounds of a unique dataset covering almost all the Madagascar at a level akin to countries in the USA. It was discovered that growth in enterprises developed strengthens formal property rights, supporting the notion that the causality between institutions and growth runs both ways even at a low administrative level.

In addition, Efendic and Pugh (2015) used dynamic panel analysis to investigate the relationship between institutional improvement and economic performance in 29 transition countries and the analysis covers the period 1992–2007. They found that per capita GDP is determined by the entire history of institutional reform under transition and that, conditional on this history, per capita GDP adjusts to recent institutional changes.

### 2.5.2 Institutional Quality and Educational Attainment

In the educational attainment concept which is also called knowledge development dimension, is classified into four indicators. These indicators provide both the quantity and quality aspects of knowledge and/or human capital accumulation. Barro and Lee, (2013) classified the indicator as adult literacy rate, primary school enrolment rate, secondary school enrolment rate and total number of years in schools.

North (1990) emphasized that efficient and quality institutions build confidence on the part of the citizens to be educated, save and invest for the future. In the same vein, Tebddi and Elmslie (2008) and Hall and Jones (1999), are of the view that effective quality institutions attract technological innovation, increase supply of social infrastructures in terms of human capital development, which sequentially increase productivity of workers output and development of the society. Beltencourt (2013) carried an investigation to access the role of democracy in determining education in SADC. The period of the investigation was from 1980-2009 and the data was got from the 15 countries that make up the SADC. The basic investigation was to ascertain whether democracy play any role in enhancing education in the region. The method used was panel time-series analysis.

The literature on the consequences of democracy to education has attracted attention of different scholars in recent time. Brown (1999) uses a sample of poor countries between 1960 and 1987 to report that changes in democracy have a positive effect on primary school enrolment. In similar vein, Lake and Baum (2001) used a sample with 62 countries covering the period 1975-1993 and they reported that increases in democracy taking place in upcoming democracies have attracted increase in secondary school enrolment. On the other hand, Mulligan, Gil and Sala-i-Martin (2004) do not find

evidence that democracy affects education spending in their sample of 142 countries, from 1960-1990.

Mauro (1998) finds that corruption reduces expenditures on education. He argues that corrupt officials choose to spend public resources on activities with greater opportunities to extract bribes. Most spending on education (salaries, school materials, etc) is clear-cut and does not allow government officials a great deal of discretion. Thus, corrupt officials design expenditure patterns that provide less spending in these categories, and more spending on categories such as defense and big capital projects. However, Mauro's empirical work does not support the hypothesis that more corruption leads to more spending on defense and public investment.

Also, Brown and Hunter (2004) used a panel of 17 countries between 1980 and 1997 to report that democracy has had a positive effect on pre-primary and primary education spending in Latin American. More specifically to SSA, Satasavage (2005) used a sample of 44 countries of African democracies between 1980 and 1996 to report that those recent democracies increased spending on primary education, and Harding and Satasavage (2013) suggested that school attendance is higher in democracies than in non-democracies and that the abolition of school fees in democratic states plays an important role in enhancing attendance.

Researchers have long debated the relative importance of education and institutions. Wietzke (2015) carried out a research on long-term consequences of colonial institutions and human capital investments: sub-national evidence from Madagascar. However, to this point there has been little robust evidence how, or in what order, schooling and institutions interact in the development process. This study from Madagascar represents one of the few systematic attempts to disentangle the separate economic effects of historical school investments and colonial institutions within a comparable national context (Acemoglu, Gallego, & Robinson, 2014). The research design and results for colonial institutions replicate at the local level well-known cross-country evidence of the effect of European presence and direct colonial rule on institutional development (Acemoglu, Johnson and Robinson, 2002; Easterly & Levine, 2012; Hariri, 2012; Lange, 2004). Regions which received stronger property rights and legal institutions in the colonial period tend to record much better economic outcomes over time than areas with comparable geographic and historical characteristics (Wietzke, 2015).

Furthermore, Neugarten (2015) investigates the role of educational attainment on state failure throughout Africa since 1950, the beginning of the independence era. The study uses 31 countries ranging from the northernmost tip of Africa to the southernmost. Although educational attainment is not directly an institution, a country's academic achievement is most likely highly correlated with how well the educational sector functions In addition, this result is consistent with earlier findings by Green and Moser (2013), who find positive associations between local property rights and manufacturing activities in Madagascar.

Education is not only a way to better income and employment opportunities for all or a source of economic growth for the nation. But it also plays a pivotal role in improving

other social indicators. It leads to better life expectancy and health care, smaller family norms, greater community and political participation. It also leads to reduction of inequality, poverty elevation and good governance. It is a pre-condition to establish democracy in a country (Mahmood, 2012).

Authorities of institutionalism approaches in the like of Acemoglu, Johnson, and Robinson (2001, 2002), Dell (2010), Gallego (2010), Savoia, Easaw and McKay (2010) and Yasar, Morrison Paul, and Ward (2011) argued that legal and political reforms are at the origin of successful growth performances. This case has been made forcefully by former colonies that were chosen for European settlement; they do better today due to the higher quality of the institutions they received in the colonial era. While the authors acknowledge that better institutions tend to be associated with higher rates of investment in human capital, they interpret this as a result, not cause, of institutional development (Acemoglu & Robinson, 2006, 2012; Banerjee & Iyer, 2005; Iyer, 2010).

Also studies in this area rely on sub-national data and do not typically account for possible interactions between institutions and human capital within localities. For example an article by Gennaioli, La Porta, Lopez-de-Silanes, and Shleifer (2013), who document that economic effects of local human capital outweigh those of local institutions in a large sample of developing and developed regions, only uses contemporaneous data to buttress this stance. This was also corroborated by Acemoglu and Dell (2010). As a consequence, the authors cannot fully account for the possibility that local skill and education levels are influenced by the quality of local institutions, or

by other local processes of endogenous human capital accumulation, like domestic migration or learning-related spillovers (Glaeser & Gottlieb, 2009; Lucas, 1988; Romer, 1990). This is particularly relevant in the historical context of indirect colonial rule, which is often seen as a cause of the highly uneven development of local markets and institutions within African nation (Lange, 2004; Mamdani, 1996). However, the issue of state failure and instability is one of great concern for the west and the inhabitants of fragile states throughout Africa.

### 2.5.3 Institutional Quality and Life Expectancy

Knowles and Owen (2008) opine that people in most developing countries suffer from poorer health and live shorter lives, on average, than people in rich countries. Accordingly, in 2005, average life expectancy at birth in Japan was 82 years compared to 35 years in Botswana and Lesotho (Knowles & Owen, 2008). It is important to note that, in the health development quality dimension, there are five indicators. The indicators are the following: Life expectancy at birth, Infant mortality rate, Physicians, Immunization of children, and  $CO_2$  emissions per capita. The  $CO_2$  indicator shows an environmental aspect, which may lead to degradation of health conditions.

A few existing studies do consider a role for informal institutions or social capital in explaining cross-country differences in income or health status. Tabellini (2007) analyses the effect of culture on per capita output across regions in European countries, but his paper also includes some cross-country regressions examining relationships between different indicators of culture and governance, that is formal institutions. Tabellini's measure of culture includes survey-based information on the extent of trust, whether people believe children should be taught to respect others, whether they should be taught to be obedient. Tabellini's paper makes a strong case for the relevance of values and behavioural norms in explaining different experiences of economic development, but it does not adopt a deep determinants perspective, as neither formal institutions nor geographical characteristics are included as regressors explaining regional per capita income.

However, the approach adopted by Ahlerup, Olsson, and Yanagizawa (2008) is the most closely related to Knowles and Owen (2008), in that the explanatory variables in their model include a measure of formal institutions (covering bureaucratic quality, law and order, and corruption), social capital (measured as generalized trust) and their multiplicative interaction. Nevertheless, the focus of their cross-country empirical analysis is on explaining the growth of GDP per capita (from 1995-2005) or the rate of investment, not health status.

Also, rather than using a deep determinants approach; they fit a Barro-type growth regression that includes base-period income, investment prices and human capital proxied by life expectancy (Zak & Knack, 2001). Their results imply that formal institutions and trust are substitutes in terms of enhancing growth; consequently, social capital has a stronger positive effect on growth for countries with lower quality formal institutions. There is also a more extensive literature, reviewed in Islam, Merlo, Kawachi, Lindstrom and Gerdtham (2006), that examines the effect of social capital across countries on health indicators, including life expectancy. These studies normally do not control for formal

institutions and geography; instead, proximate determinants, such as immunization rates, the number of doctors and income per capita, are often included as control variables. Also, Lazarova and Mosca (2006) used a sample of 112 countries (which is representative of a wide range of absolute income governance indicators from World Bank governance indicator for the years 1996, 1998 and, 2000. Using OLS, Lazarova and Mosca found that institutional quality has an effect on life expectancy.

In accordance with the previous studies, Eyyup (2013) examines the impact of institutional quality on life expectancy at birth that will bring about economic growth for 21 OECD countries using panel data for the period of 1970-2010 in the context of panel cointegration and causality tests. Two different model specifications are considered for this purpose. The variable of life expectancy which serve as an indicator of health and real per capita gross domestic product as an indicator of standard of living. While the independent variables are, real exports, real fixed capital and energy use per capita. Using Maddala-Wu (1999) cointegration tests, it indicates that there is a long-run relationship between the variables.

In order to deal with panel OLS, Pedroni dynamic OLS (DOLS) and fully modified OLS (FMOLS) techniques, employed by Maddala-Wu (1999) the estimated coefficient for life expectancy is found positive and statistically significant. Also, the results of panel Granger causality tests based on panel vector autoregressive (VAR) models indicates that there is a unidirectional causality running from life expectancy to real per capita GDP. Thus, income per capita, education, and public access to health care improve life

expectancy at birth, whereas income inequality has an adverse effect on this measure of health. According to Eyyup (2013), the failed national and international programs of economic and structural adjustment policies that have not addressed the crucial issue of political structure are testimony to the importance of freedom and democracy for human well-being and health status.

Eyyup (2013) asserted that healthcare administration explains cross-country differences in levels and growth rates of income. In this paper, panel data analysis in the content of cointegration and causality relationship was provided for 21 OECD countries ranging from 1990-2010. The data was derived from World Bank's World development indicators, 2012. Also, panel cointegration test developed by Maddala and Wu (1999) was used. The results show that life expectancy has a positive and statically significant effect on real per capita GDP.

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### 2.6 Literature Gap

Having gone through literature search, this study differs from previous studies at least in the area of coverage, timeframe, variables used and method of analysis. The following points serve as research gap in this research work. There is the issue of limited work reported in the area of study that is institutional quality and human development especially in SSA countries. Apart from that, most of the previous studies concentrated on economic growth and development. As part of research gap, this study used human development to replace economic development. Also the human development concept is aggregated and disaggregated to critically assess the implication for policy trust. In addition, four institutional indicators namely; rule of law, corruption, bureaucratic quality and property rights are employed in the course of the study for the analysis which is relatively different compared to previous studies that made use of fewer variables. Also instrumental variable such as government expenditure, school expenditure, hospital expenditure, labour force and infrastructural facilities are employed to support the models. Furthermore, in terms of methodology and to avoid the potential difficulties of endogeneity and serial correlation are controlled by adopting both the static and dynamic panel data analysis. In other words, unlike previous studies that used fixed and random effect panel analysis only. Here the study used both fixed and random with generalised method of moments (GMM). All these serve as my contribution to the existing body of knowledge.

# 2.7 Conclusion

Based on the literature reviewed, the issue of institutional quality and human development is a typical area that needs further investigation especially in SSA countries. Unlike the previous studies, the approach is to access institutional qualities based on rule of law, corruption index, property rights and bureaucratic quality which forms the main independent variable. While human development is disaggregated into per capita income, educational attainment and life expectancy which forms the dependent variables. The methodological approach considered the influence of the previous period and the present occurrences to ascertain the actual impact. In other words, this study used generalized method of moments based on reviewed literature to assess the efficacies of the impact of institutional quality on human development in SSA countries.

# CHAPTER THREE METHODOLOGY

#### **3.1** Introduction

This chapter discusses the methods adopted in conducting this study. Section 3.2 discusses the theoretical framework of the study while Section 3.3 explains the models employed in the data analysis, Section 3.4 provides justification for the variables examined in this study while Section 3.5 discusses sources of data used in the study, Section 3.6 explains the method of analysis used in the study, while Section 3.7 draws the conclusion of the chapter.

### **3.2** Theoretical Framework

The underpinning theory of this research is the human capital development theory that was discussed previously in the preceding chapter. This theory forms the theoretical framework as illustrated in Figure 3.1. The figure shows the inter-relationship between institutional quality and human development. When right institutions are mentioned, people want to see the real quality of institutions that creates enabling and stimulating environment where economic activities are operational with adequate level of technological advancement and rapid capital formation. In other words, right institutions give birth to adequate institutions which comprises as far as this study is concerned include; dynamic rule of law, curtail corruption, ideal property right issue and adequate bureaucratic quality. Once these institutional qualities are functioning in any given society, all the three components of human development become realizable (Lucas, 1988).



Figure 3.1 Theoretical Framework: Components of Institutional Quality and Human Development

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Furthermore, the situation given above is in harmony by Romer (1990). He demonstrated the extent to which knowledge creation through R & D bring about monopoly power that leads to intellectual property right capital formation in terms of higher standard of living. This in turn leads to proper healthcare facilities and medical checkups to preserve the knowledge acquired for sustainable development of the society (German-Soto & Flores, 2015). Nevertheless, educational attainment, life expectancy and standard of living make up the component of human development which is related to institutions. Acemoglu, Gallego and Robinson (2014) asserted that quality institutions lead to human development which brings about sustainable development.

### **3.3** Model Specification

Based on the explanation above, this thesis adapted the equation used by Klomp and Haan (2013) with modification by introducing other variables such as human development, standard of living educational attainment and life expectancy which make it different from previous studies. In their work, they estimated the relationship between political factors and human capital. In this work, institutional quality and human development served as both the independent and dependent variables. Additionally, instrumental variable are inclusive in the models to burst the efficiency of the results and they are; government expenditure, school expenditure, health expenditure, infrastructural facilities and labour force. Accordingly, structural equations are used as a statistical technique to analyse the dimensions of a latent construct and analyse the dependence structure (Dreher, Kotsogiannis & McCorriston, 2007). Structural equation model is characterized by two basic components; the measurement model, which allows using several variables (or indicators) for a single latent independent to dependent variable and the structural model, which relates independent to dependent variables.

Based on the information and explanation, Klomp and Haan (2013) and to come up with better measures that include more information and to determine whether human capital and political institutions have a multidimensional character stated in their model as thus,

$$[3.10] HC_{li} = \beta_0 + \beta_i X_{ij} + \theta_i \text{Political} \quad i + \delta_i + \varepsilon_i$$

where,  $HC_{1i}$  is a measure for human capital (advanced or basic) of country *j*. As far as this work is concerned is replaced with human development and its three components measures like, standard of living, educational attainment and life expectancy which formed the dependent variables in the thesis. While political variable is replaced with institutional variables like rule of law, corruption, bureaucratic quality and property rights which also formed the independent variables with control variables.

Nevertheless, this study used both static and dynamic panel data analysis. These include random and fixed effects and the generalized method of moments. The GMM estimator is developed by Anderson and Hsiao (1981), Griliches and Hausman (1986), Hsiao (2003), Holtz-Eakin *et al.* (1988), Arellano and Bond (1991), Arellano and Bover (1995) and Blundell and Bond (1988) all for dynamic models of panel data.

The models are formally stated in conjunction with the objectives of the research as shown in Equation [3.11] – Equation [3.14] for static models and Equation [3.15] – Equation [3.18] for dynamic models respectively. This is consistent with Hsiao (2006) and Poveda, (2012). However both the static and dynamic structured equations are stated as follows. The structured equations for the static panel data can be specified as follows

$$[3.11] \quad HDI_{it} = \theta_1 + \theta_2 RLI_{it} + \theta_3 CI_{it} + \theta_4 BQ_{it} + \theta_5 PRI_t + \theta_6 GE_{it} + \theta_7 INFR_{it} + \theta_8 LAB_{it} + \varepsilon_{it}$$

$$[3.12] PCY_{it} = \alpha_1 + \alpha_2 RLI_{it} + \alpha_3 CI_{it} + \alpha_4 BQ_{it} + \alpha_5 PRI_t + \alpha_6 GE_{it} + \alpha_7 INFR_{it} + \alpha_8 LAB_{it} + \varepsilon_{it}$$

$$[3.13] \quad EDU_{it} = \delta_1 + \delta_2 RLI_{it} + \delta_3 CI_{it} + \delta_4 BQ_{it} + \delta_5 PRI_t + \delta_6 GE_{it} + \delta_7 INFR_{it} + \delta_8 LAB_{it} + \varepsilon_{it}$$

 $[3.14] \quad LEX_{it} = \phi_1 + \phi_2 RLI_{it} + \phi_3 CI_{it} + \phi_4 BQ_{it} + \phi_5 PRI_t + \phi_6 GE_{it} + \phi_7 INFR_{it} + \phi_8 INFR_{it} + \phi_8$ 

$$+\phi_8 LAB_{it} + \mathcal{E}_{it}$$

While the dynamic equations are also stated in terms of aggregated and disaggregated.

Aggregated Model;

$$[3.15] \quad HDI_{it} = \beta_{1i} + \theta_1 HDI_{it-1} + \theta_2 RLI_{it} + \theta_3 CI_{it} + \theta_4 BQ_{it} + \theta_5 PRI_{it} + \theta_6 GE_{it} + \theta_7 INFR_{it} + \theta_8 LAB_{it} + \varepsilon_{it}$$

Disaggregated Model

$$[3.16] \begin{array}{l} PCY_{it} = \beta_{1i} + \alpha_1 PCY_{it-1} + \alpha_2 RLI_{it} + \alpha_3 CI_{it} + \alpha_4 BQ_{it} + \alpha_5 PRI_{it} \\ + \alpha_6 GE_{it} + \alpha_7 INFR_{it} + \alpha_8 LAB_{it} + \varepsilon_{it} \\ \\ [3.17] \begin{array}{l} EDU_{it} = \beta_{1t} + \delta_1 EDU_{it-1} + \delta_2 RLI_{it} + \delta_3 CI_{it} + \delta_4 BQ_{it} + \delta_5 PRI_{it} + \delta_6 SE \\ + \delta_7 INFR_{it} + \delta_8 LAB_8 + \varepsilon_{it} \end{array}$$

 $[3.18] \quad LEX_{ii} = \beta_{3i} + \phi_1 LEX_{ii-1} + \phi_2 RLI_{ii} + \phi_3 CI_{ii} + \phi_4 BQ_{ii} + \phi_5 PRI_{ii} + \phi_6 HE + \phi_9 INFR_{ii} + \phi_{10} LAB_{ii} + \varepsilon_{ii}$ 

where,

- *PCY* = Per Capita Income (Per Capita GDP USD)
- *EDU* = Educational Attainment (School enrolment %)
- *LEX* = Life Expectancy ( at Birth %)
- RLI =Rule of Law (%)

$$CI = Corruption (\%)$$

BQ = Bureaucratic Quality (%)

*PRI* = Property Right (%)

HE	=	Hospital	Expenditure	(Percentage	e of GDP)
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- *SE* = School Expenditure (Percentage of GDP)
- *GE* = Government Expenditure (Percentage of GDP)
- *LAB* = Labour Force (working age population over total population)
- *INFR* = Infrastructural Facilities (Percentage of GDP)

### **3.4** Justification and measures of Variables

In this section, both the dependent and the independent variables used are explained, the source and the component for the proxy used as a variable in the model is explained. Also hypotheses are formulated in this section.

# 3.4.1 Human Development

Human development (*HD*) is defined as a process of enlarging people's choices, achieved by expanding human capabilities and functioning (UNDP, 1990). *HD* is a summary of human development around the world and it implies whether a country is developed, still developing or underdeveloped based on such as life expectancy, education, (literacy) and GDP per capita (standard of living). *HD* is published in the human development report, which is commissioned by UNDP and is written by scholars, those who study world development and members of the human development report office of the UNDP.

According to the UNDP, *HD* is about creating an environment in which people can develop their full potential and lead productive, creative lives in accord with their needs and interests. It is important to note that people are the real wealth of nations and it involves the expansion of peoples' choices to lead lives that they value (UNDP, 1990).
Also, UNDP claims that the HDI is superior to per capita GDP for measuring social wellbeing because GDP per capita measures only income whereas the *HD* is also weighted for longevity and education; GDP per capita only reflects average income whereas HDI is influenced by the type of goods that constitute GDP. For example, a country with a very high per-capita GDP such as Kuwait has a lower HDI rank because of a relatively lower level of educational attainment. Uruguay has roughly half the per capita GDP of Kuwait but has a higher HDI rank (Davies & Quinlivan, 2006).

In other words, it is a multidimensional composite index which was recognized as a measuring tool of development over time. It can be explained as the process of enlarging a person's performance and capabilities to function within the range of things a person can do and being able to sustain his or her life. That is to say, is about removing the obstacles to what a person can do in life, obstacles such as illiteracy, ill health, lack of access to resources, or lack of civil and political freedoms (Sen, 2008).

Ideally, the essence of development is to improve human lives by expanding the range of things that a person can be and do, such as to be healthy and well nourished, to be knowledgeable, and to participate in community life with high standard of living. The advantage of it is that it allow for meaningful assessment of *HD* between regions or states. However, it is vital to stress here that according to Sen (2000), *HD* approach contains two aspects namely; the evaluative and agency aspect. The first is to evaluate improvements in human lives using achievements overtime. While agency is concerned with what human beings can do to achieve such position of improvement in human

status. Siddiqui (2009) submits that *HD* is an important segment in determining the level of development of a nation and the three elements usually taking into consideration are: health, knowledge and living standard. He however added that HDI is often used to measure the level of *HD* in any country.

*HD* is measured by Human Development Index (HDI) which is in percentage published by the World Bank. However in terms of its measurement, it combines the three dimensions as a composite measure namely; a long and healthy life: life expectancy at birth; education index: mean years of schooling and expected years of schooling and lastly a decent standard of living: GNI per capita (USD). It is important to note that HDI which is a composite index of *HD* where the GDP is only one of the elements, which determines along with other elements of human life is regarded as the best proxy of development (UNDP, 2013). Example of previous study could be found in (Tridico (2008) and Klomp and Haan (2013). This variable is included in the model to examine the extent to which *HD* has evolved overtime in the SSA countries. That is to explore the level of *HD* and consequently how it has impacted on the life of people in the study area.

#### **3.4.2** Life Expectancy

Life expectancy (*LEX*) refers to 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 (World Bank, 2009). The provision of basic health services is a major form of human capital investment and a significant determinant of economic growth and development and poverty reduction. *LEX* at birth is commonly regarded as the best overall indicator of the health status of a population. As far as SSA countries are

concerned, the health of its children has a direct impact on the future security and productivity of its economy, the delivery of public services, and the education of future generations. The region lacks the infrastructure to provide even basic health care to many of its people. The scale of the challenge is driving a reassessment of traditional approaches and a growing acceptance that the private sector should be a key part of the region's overall health strategy. A comprehensive approach that strengthens key elements of national health systems is required to save lives in SSA countries (Folland, Goodman, & Stano, 2010).

Today, services and performance are negatively affected by obsolete infrastructures, hospitals equipment and machineries. This is measured through long and healthy life, which is the same as life expectancy at birth (World Bank, 2009). Previous studies include Cheema and Maquire (2011), Hansen (2013) and Kunze (2014). Specifically, Kunze (2014) used an overlapping generation model to investigate the relationship between life expectancy and economic growth and found that life expectancy affects growth positively.

This variable is used in the model because of the perceived impact of life expectancy as a component of *HD*. The a priori expectation is that there will be a positive relationship between *LEX* and institutional quality in SSA countries. This variable is measured by infant mortality as a proxy for *LEX*. The data is obtained from governance indicator of the World Bank.

#### **3.4.3** Standard of Living

Standard of living (*PCY*) is theoretically the amount of money that each individual gets in that particular country. It is a measure that results from GDP divided by the size of the nation's overall population or GDP per capita. Income per capita is used as a means of evaluating the living conditions and quality of life in different areas. The GDP per capita is especially useful when comparing one country to another because it shows the relative performance of the countries. A rise in GDP per capita signals growth in the economy (Todaro, 2011). This concept is published by the World Bank governance indicator. Previous studies on institutional quality and economic growth, which represents standard of living was carried out by Prochniak (2013); Efendic and Pugh (2015); Lobsiger and Zahner (2012); Green and Moser (2013) and Neugarten (2015).

#### 3.4.4 Educational Attainment

Educational attainment (*EDU*) refers to the highest level of education an individual has successfully completed in the process of knowledge acquisition (German-Soto & Flores, 2015). Accordingly, better educated individuals leads to more productivity in the society In the work carried out by Almendarez (2011) and German-Soto and Flores (2015) explains that human capital theory pioneered by Becker (1962) and Schultz (1963), suggest that the relevance of education bring about enhanced productivity. The importance of education for development was fully acknowledged by classical economists like Adam Smith (1776), Alfred Marshall (1890). The recent political economists like Schultz (1988), Becker (1993) and Sen (1995) reaffirmed it. But in SSA, policy makers ignored this aspect and they allocated insufficient resources for education;

while bulk of resources allocated to areas outside the training of the mind and soul that are supposed to transform the society. Public spending on education is still low in SSA hence the level of illiteracy is very high. Nonetheless a country which is unable to develop the skills and knowledge of its people and to utilize them effectively in the national economy would be unable to develop anything else (Harbison, 1973).

Educational attainment is measured by the adult literacy rate and the combined primary, secondary and tertiary gross enrolment ratio. In other words, it is the mean years of schooling and expected years of schooling. This measurement is from the World Bank. Previous studies include Almendarez (2011) and Wietzke (2015). Other authors include Mahmood (2012) and German-Soto and Flores (2015). This variable is being used in the model to assess the extent to which educational attainment has impacted on institutional quality in SSA countries. The a priori expectation is that there is a positive relationship between educational attainment and institutional quality.

#### 3.4.5 Rule of Law

According to Kaufmann, Kraay, and Mastruzzi (2010), the rule of law (*ROL*) indicator captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. In other words, *ROL* refers to a principle of governance in which all persons, institutions and entities, public and private, including the state itself are accountable to laws that are publicly promulgated, equally enforced and independently adjudicated and which are consistent with international human rights. It determines the extent of protection and enforcement of

legal rights of the citizens and foreigners alike including corporate entities such as business organizations. Rule of law index is measured based on the experiences and perceptions of the percent of the world's population as reported by World Justice Project2015. However, the data is obtained from World Bank development indicators. Previous studies include (Ahn & York, 2011; Fogel, 2006; Osman *et al.*, 2012). *ROL* promotes, sustain peace, safety and security which constitutes the basic elements in creating and nurturing human development. This variable is used in the model to determine the extent to which rule of law impact on *HD* generally. The a priori expectation is that there is a positive relationship between *ROL* and *HD* in SSA countries.

### 3.4.6 Property Rights

Property rights (*PRI*) have to do with laws created by governments in regards to how individuals can control, benefit from and transfer property. Government enforcement of strong property rights is a determinant regarding the level of economic success seen in the society. Individuals create new forms of property to generate wealth; only when they are assured that their rights to their property are protected against unjust and or unlawful actions by other parties. This variable is measured from two institutional variables; risk of repudiation of contracts by government and risk of expropriation of private investment as proxy for PRI. The data is obtained from World Bank development indicators. Previous studies in this area include, (Osman, Alexiou & Tsaliki, 2012) Security of property rights has the potential to advance economic development. Countries with economic freedom and policies that provide security of property rights, non-confiscatory taxes and enforcement of contracts promotes development and experiences better economic performance (Gwartney, Randall, Holcombe & Lawson, 2006; Osman, Alexiou & Tsaliki

2012). This in turn may create an appropriate environment for better contracting institutions. This *PRI* is included in the model to examine the extent to which it has impacted on *HD* in SSA countries. The study hypothesized that there is a positive significant relationship between property rights and the level of human development in SSA countries.

## 3.4.7 Corruption

Transparency International (2013) defines corruption as the abuse of entrusted power for private gain. It can be classified as grand, petty and political, depending on the amounts of money lost and the sector where it occurs. Corruption undermines the overall quality of governance within a country; it leads to increased transaction costs due to delays in getting government services like business permits and licenses. This has wide-ranging negative effect on investment decisions and national progress in terms of human development generally. Corruption by its nature is secretive and complex to address. Corruption is imperative to any assessment of the rule of law as it is a manifestation of the extent to which government officials abuse their power or fulfill their obligations under the law. This variable is measured in percentage hence the name corruption index (CI). It is obtained from two sources either from Transparency International or from the World Bank development indicators. Previous works on corruption can be found in Orubu and Omotor, (2011); Kaufmann, Kraay, and Mastruzzi, (2010) and Akcay (2006). The study hypothesized that there is a positive significant relationship between effective control of corruption and the level of human development in SSA countries.

#### **3.4.8** Bureaucratic Quality

Bureaucratic quality (*BQ*) is the ability of the government in policy-making such as efficiency in maintaining national sub-structures, tax gathering, budget assignment, response to economic issues and natural disasters. It also entails monitoring economic and social revolutions and political consistency which is paramount to the realization of entrenched institutional quality. This variable is measured in percentage through the mechanisms for recruitment and training, autonomy from political pressure, and strength of expertise to govern without drastic changes in policy or interruptions in government's changes. The data is obtained from World Bank development indicators. Previous studies include Acemoglu, Gallego and Robinson (2014); Aghdam (2013); Prochniak (2013) and Mulligan (2012). Their findings confirmed that improvement in bureaucratic quality is positively related to human development. The study hypothesized that there is no positive relationship between bureaucratic quality and the level of human development in SSA countries.

#### **3.4.9** Government Expenditure

Government expenditure (GE) this consist of expenditure by the government to provide goods and services and redistribute income for the citizens. Like government revenues, GE reflects historical and current political decisions but is also highly sensitive to both human and economic developments. It is important to note that the size of expenditures does not reflect government efficiency or productivity (Barro & Lee, 2013). GE is measured through gross government spending as percentage to GDP. The data is obtained from World Bank governance indicators. Previous studies on GE include Mitchell (2005), Afonso, Schuknecht and Tanzi (2010), Asghar, Hussain and Rehman (2012). Their findings confirm the positive relationship between GE and HD. This variable is being used in the model to capture the stimulating effect of an expansionary government policy on human development in SSA countries. The study hypothesized that there is a positive significant relationship between GE and the level of HD in SSA countries.

#### 3.4.10 Infrastructural Facilities

Infrastructural facilities (*INFR*) this could be defined as all earning assets, equipment and circulating capital in an economy. They serve as energy provision, transport service, institutions and telecommunications. It also entails the structures for the conservation of natural resources and transport routes in the broadest sense, buildings and installations of public administration, education, research, health care and social welfare (Buhr, 2008). Most African countries lack the required infrastructures needed, to propel human development. This variable is included in the model to examine the extent to which it influences the level of *HD* performance in SSA countries in terms of the availability of infrastructural facilities in the region.

This variable is measured through common inventory method, perpetual inventory method for movement of goods and people, clean water supplies, waste disposal and a variety of other services that contribute to economic and social activity. It also includes public health, a safe and pleasant environment. These are proxy for *INFR*. The data is

obtained from World development indicators and Heritage foundation. Previous studies include Agubuzu (2004), Klomp and Haan (2013) and Kasekende (2008). World Bank (2008) findings revealed that Africa is facing an infrastructure financing gap of USD35 billion per year. The study hypothesized that there is a positive relationship between the provision of infrastructures and the level of human development in SSA countries.

#### 3.4.11 Hospital Facilities

Hospital facilities are also known as social infrastructures and they are expected to increase the social comfort and to act on the economic productivity that will enhance the human development of any economy (Fosu & Mwabu, 2010). In most African countries, particularly the lower-income countries, infrastructure is a major constraint in doing business, and is found to reduce firm productivity. The principal method of measuring hospital facilities proxy as hospital expenditure (*HE*) is by regulatory inspection, public satisfaction surveys, third-party assessment and statistical indicators as part of government expenditure. This data is obtained from governance indicators of the World Bank. Previous studies shows that the more available, hospital facilities, the higher the level of human development. This includes Fosu & Mwabu (2010) and Asiabaka (2008).

This variable is being included in the model to examine the extent to which the availability of hospital facilities enhances the longevity of people to necessitate the realization of human development in SSA countries. The study hypothesized that there is a positive relationship between the provision of health services and the level of human development in SSA countries.

#### **3.4.12 School Facilities**

School facilities or equipment which are also known as nucleus infrastructures refers to structures characterized by an elevated degree of immobility, indivisibility and multipurpose feature for the comfort of acquiring knowledge proxied by school expenditure (*SE*). However, availability of school facilities, determines the level of enrolment of pupils in schools in general and SSA countries in particular The measure of school facilities include, per child funding, new school construction, modernization, qualified staff strength, support facilities and replacement of portable classrooms are proxy as *SE*. The data is obtained from governance indicators of the World Bank and world health organization. Previous studies confirm that the more the availability of school facilities, the more the number of pupils' enrolment, which improves human development in the countries investigated. These include Fosu & Mwabu (2010), Almendarez (2011) and Wietzke (2015).

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This variable is being used in the model because of the perceived impact of school facilities plays on the education of the people. With adequate school facilities, it enhances the human development generally. The study hypothesized that there is a positive relationship between the provision of school facilities and the level of human development in SSA countries.

#### 3.4.13 Labour Force

The labour of a country includes both the employed and the unemployed. The labour force (LAB) participation rate (or economic activity rate), is the ratio between the labour

force and the overall size of their cohort (National population of the same age range) World Bank (2011). Population as a rough proxy for labour quality should greatly depend upon the existence of an efficient system of initial education and upon the design of tax and benefit systems which could greatly affect the return of human capital investment. However, the purpose of labour quality indicator is not to determine the relative productivity across educational attainment but just to illustrate the impact of the composition of employment by educational attainment on overall productivity.

Thus, labour resource utilization is divided into demographic component (i.e working age population over total population) and a labour market component (i.e total hours worked per working age person) (Mankiw, Romer & Weil, 1992). Nevertheless, labour productivity measures the amount of goods and services produced by one hour of labour. More specifically, productivity measures the amount of real GDP produced by an hour of labour. As population increases there is need for the provision of health facilities, education and training across the entire sectors of the economy. This data is obtained from governance indicators of the World Bank and World health organization. Previous studies include, Kasekende (2008), shows that at least until recently higher rates of world population growth were associated with more rapid technical progress. Buhr (2008) find a relatively large and significant effect of population growth on output per person growth. But when they decompose that effect, the output effect is nearly all mediated through change in labour force participation. The labour force can strengthen the efficacy of government expenditures as opined by Garba, Egwaikhide and Adenikinju (2004). This

study hypothesized that there is a positive relationship between sound labour force and human development in SSA countries.

#### **3.5** Sources of Data

Data for the study was obtained from secondary sources of data collection. Here, human development with its components was sourced from World Development Indicators (WDI). Also, the institutional variables were equally sourced from the WDI and other sources which include; World Bank publications, International Country Risk Guide (ICRG), Transparency International for corruption index and The Heritage Foundation's (Economic Freedom Heat Map) for property rights. The choice of data source for each variable is informed by either the availability of data, longer time span and better quality of data in situations where the data on the variable is available in two or more sources. As for the time span, the study covered the period 2005 - 2013.

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#### **3.6 Method of Analysis**

This section explains the methods adopted in the analysis of the data to achieve the objectives of the study. This study used both static and dynamic panel data analysis. The study basically employs panel data analytical tools in achieving the set goals of the research. The choice of panel data approach is informed by a number of methodological advantages it offers. For example, Asterious and Hall (2007) postulates that panel data allows for exploration of many effects that are otherwise unidentifiable using cross-section and time series data. Panel data offers many advantages for instance, Baltagi (2008) stated that panel data is meant to utilize both time series and cross-sectional

information and it gives large number of observations. Gujarati (2015) and Green (2013) also stated that panel data improves empirical analysis and it gives more flexibility for modeling the behavior of cross sectional units than convectional time series analysis.

However, it is important to note that panel longitudinal data gives room to examine crucial researchable questions that cannot be covered or cater for using times series or cross section (Hsiao, 2003; Baltagi, 2008; Hsiao (2003). The panel data analysis is the most suitable to capture the variations over time of the performance indicators. Similarly, it controls individual country specific heterogeneity as well as the changes in the countries operating environment as is applicable to this study.

Panel data have the advantage of uncovering dynamic relationships in econometric analysis. In the words of Nerlove (2002), economic behavior is inherently dynamic; therefore the relationships are implicitly or explicitly dynamic. With panel data, according to Pakes and Griliches (1984), rely only on the inter-individual differences to reduce the collinearity between current and lag variables to estimate unrestricted timeadjustment patterns Furthermore, panel data generates more accurate predictions for individual outcomes through pooling the data rather than generating predictions of individual outcomes using the data on the individual in question. The potential difficulties of endogeneity and serial correlation are controlled by adopting GMM procedures. Therefore, panel data has more accurate inference of model parameters. It also has greater capacity for capturing the complexities of unit of analysis than a single time series or cross-section data. These attributes of panel data, according to Ben-Porath (1973), include constructing and testing more complicated issues. Nevertheless, it is important to note here that objective one to objective five; both the static and dynamic panel data analysis was used through stat techniques for the assessment and possible recommendations proffered.

#### 3.6.1 The Pooled Ordinary Least Squares

The first technique for panel data combines all of the time series and cross-section data and estimates underlying model by OLS. The model to be estimated over all time periods (T) and cross-section units is

$$[3.19] Y_{it} = \alpha + \beta' X_{it} + \varepsilon_{it}$$

where the *i* and *t* subscripts refer respectively to country and time;  $Y_{it}$  is the dependent variable in country *i* at year *t*,  $X_{it}$  is a vector of the explanatory variables for country i = 1,2...,N and at time t = 1,2,...,T, and  $\varepsilon_{it}$  is the error term. Error term fulfils the condition of (i)  $\varepsilon_{it} \sim iid(0,\sigma_{\varepsilon}^2)$  and (ii)  $\varepsilon_{it}(X_{it}\varepsilon_{it}) = 0$  which implies that the relationship between the disturbance and explanatory variables in the same time period is uncorrelated.

However, the model places no restrictions on the relationship between  $X_{it}$  and  $\varepsilon_{it}$ , where  $s \neq t$ , meaning that panel data estimation does not impose strict exogeneity of the  $X_{it}$  variables and the error term across all individuals and over all time periods. One can detect for serial correlation in panel data models using an autoregressive error term ( $\varepsilon_{t-1}$ ) in the pooled specification, if assumption (ii) holds, and serial correlation is found not to be of significance, along with the assumptions that the intercept and slope variables are constant over time and across cross-section units, then polled OLS is the preferred model. Wooldridge (2002) observe that: "as a general rule, with large N and small T, serial correlated errors across time periods are not deemed to be problematic".

Gujarati (2003) points out that, the advantages of using a pooled regression model versus a purely time series or cross sectional model is that pooling data allows for more informative data, more variability, less collinearity among variables, more degrees of freedom and more efficiency. In addition, the time-series element of panel data is useful since economic, political, institutional, and social policies are expected to have an observable impact only after some time has elapsed.

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One problem associated with panel data is the possibility of heterogeneity across individual units and across time (Gujarati, 2003). In other words, the observations may not be independently distributed. To the extent that this problem exists, the pooled regression model may distort the relationship between the explanatory variable and the dependent variable and the dependent variable. For instance, the "individuality" or "unobservable traits" of the countries may cause country specific unobservable characteristics such as climate, history, culture, and geographical location to be correlated with the independent variables in the model. In addition, for unobservable country characteristics Gujarati (2003) note that there may be time effects'. For instance, the population may have different distributions in different time-periods because of factors such as technological progress, changes in government tax policies, and external effects such as wars or other conflicts. In order to control for these unobservable factors, the fixed-effects model is used to correct for the shortfalls associated with pooled OLS.

#### 3.6.2 Random Effects Model

The random effects model (REM) is employed if the differences across the entities (countries, individuals, etc) have some effects on the dependent variable. The RE assumes that variation across entities is random and uncorrelated with the predictor variables. In other words, the entity's error term is assumed to be uncorrelated with the predictor variables, and permits the inclusion of time-invariant variables such as race, culture, etc., in the model like any other independent variables. But these variables are absorbed by the constant term in the FEM model. In using the REM, one is expected to specify the individual characteristics which might or might not affect the predictor variables. However, some variables might be unavailable, resulting in omitted variable(s) bias in the model. Fortunately, with the REM conclusion can be generalized beyond the sample employed in the model. The REM model is specified as:

$$[3.20] Y_{it} = \beta_i \sum_{i=1}^N X_{it} + \mu_{it} + \alpha_i + \varepsilon_{it}$$

where  $\mu_{it}$  is between-entity error and  $\varepsilon_{it}$  the within-entity error.

#### 3.6.3 Fixed Effects Model

One advantage of panel data is to control for unobserved heterogeneity. To control for country and time-specific effects, Equation [3.20] can be rewritten as follows:

$$[3.21] Y_{it} = \delta_i + \theta_t + \beta_i \sum_{i=1}^N X_{it} + \varepsilon_{it}$$

where  $\delta_i$  and  $\theta_t$  are country and time specific effects, respectively;  $\varepsilon_{it}$  is a zero mean random disturbance with variance constant,  $\varepsilon_{it} \sim iid(0, \sigma_{\varepsilon}^2)$ . If  $\delta_i$  and  $\theta_t$  denote fixed parameters to be estimated, the model is known as the FEM. The  $X_{it}$ 's are assumed independent of the  $\varepsilon_{it}$ 's for all *i* and *t* where  $i \neq t$ . This model is almost the same as the pooled model with constant slope coefficients but in this case  $\delta_i$  and  $\theta_t$  varies across cross-sectional unit and time respectively.

A fem accounts for the unobservable heterogeneity that may exist across countries and time by allowing the intercept to vary across countries and time-periods. Kirkpatrick and Parker (2007) argued that, this procedure, which essentially involves including a dummy for every country and time in the estimated time-invariant factors that affect the dependent variable. The advantages of fixed effects specification include the fact that it allows the individual or time specific effects to be linked with explanatory variables (Hsiao, 2005). To decide between pooled OLS (restricted model, time and country effect = 0) and FEM (unrestricted model) estimation technique, one can perform a statistical test (*F*-test) on the joint significance of the country-specific coefficients in the FEM relative to the OLS panel:

$$[3.22] \quad F = \frac{\left(SSR_{OLS} - SSR_{FEM}\right)}{SSR_{FEM}} * \frac{(NT - K - Q)}{Q}$$

where *SSR* is the sum of squared residuals from each estimation procedure (*SSR*<sub>*OLS*</sub> and *SSR*<sub>*FEM*</sub>). *K* is the number of parameters in the unrestricted regression, Q is the number of restrictions, and *NT* is the number of observations, and time period respectively. The *F*-test is of the null hypothesis that the equal intercept restrictions are correct. If the increase in residual sum of squares is not significant when the restrictions are imposed (OLS model), one can conclude that the restrictions are correct and the model can be estimated using OLS. A rejection of the null hypothesis implies that the residual sum of squares changes substantially and the FEM is more efficient.

#### 3.6.4 Generalized Method of Movement

Most economic relationships are dynamic and the advantage of panel data is allowing the dynamic adjustment. For instance work of Baltagi and Levin (1986) on a dynamic demand for addictive commodities, Blundell *et al.* (1992) on dynamic model of company investment and Arellano and Bond (1991) on the dynamic model of employment. The GMM is developed to check the limitations and shortcomings of the simple panel data estimation observed. Similarly, McKay (2004) considers the problem of estimating dynamic models with unequally sized panel data. He said, surveys in developing countries and most firms are often taken at unequally sized, spaced intervals and this inequality in turn, imposes nonlinear restrictions on the parameters. Nonlinear least squares, minimum distance and one-step estimators are suggested that are consistent and

asymptotically normal for finite T as the number of individuals per cohort or group is allowed to pass to infinity.

Furthermore, Bover and Arellano (1997) propose a simple two-step within estimator for limited dependent variable models, which may include lags of the dependent variable, other exogenous variables and unobservable individual effects. According to them, this estimator is based on reduced form predictions of the latent endogenous variables. As such it is consistent and asymptotically normal as observed.

According to Bun (2004), GMM estimator is more efficient and does not require complete knowledge of the distribution of the data. It requires only specified moments derived from an underlying model for the estimation. Procedurally, according to Wooldrigde (2001), GMM works by adding moment's conditions under the assumption that past values of explanatory variables are uncorrelated with the error term. The empirical evidence is supported by executing a dynamic panel data (DPD) model in which it is assumed that the pay-offs of institutional quality and human development in terms of sustainable development in SSA, may appear with a lag. Additionally the past performance plays a potential role in its current values, in such a way that it is also considered as a potential explanatory variable (German-Soto & Flores, 2015).

The difficulties arising from autoregressive terms are overcome with the two-stage system GMM procedure and by evaluating the over-identifying restrictions with the J statistic test. Also, GMM estimator not only improves the precision but also reduces the

finite sample bias. These features of their procedure are confirmed by Blundell and Bond (2000), who conclude that GMM estimator can overcome much of the failure to obtain consistent estimates in dynamic panel models. Cragg (1983) was the first to discover that one can improve over ordinary least squares in the presence of heteroskedasticity of unknown form by applying GMM. In other words, the potential difficulties of endogeneity and serial correlation are controlled by adopting GMM procedures. In addition, Hansen's (1982) posits how to choose among the many possible method of moments estimators in a framework that allows for heteroskedasticity, serial correlation and nonlinearities.

Wooldridge (2001) opined that a common theme about GMM is in line with the fact that, GMM estimators often can be found that are more efficient than common method of moments estimators-such as ordinary least squares and two-stage least squares-when textbook auxiliary assumptions such as homoskedasticity fail. Theoretically, this would seem to make a strong case for always using a GMM procedure. However, while virtually every empirical researcher has used ordinary least squares or two-stage least squares, most have probably never used a sophisticated method of moments estimator, which is synonymous with it. In other words, the scope of GMM is for standard applications as well as for more sophisticated problems as is seen in SSA countries. It is important to note that many authors like Bond (2002), Roodman (2007), Baltagi (2008) and Roodman (2009) argue that the dynamic panel model is specially designed for a situation where '*T*' is smaller than "*N*" in order to control for dynamic panel bias as observed in this research work.

#### 3.7 Diagnostic Checking

In this study various diagnostic checking have been conducted on the model. The tests include, the Breusch and Pagan Lagrangian Multiplier test (BPL) for random effects and Hausman specification test. This test determines which estimator either random effect or fixed effect is more appropriate. Another important test conducted is Variance Inflation Test (VIF) for Multicolinearity. This is use to detect multicolinearity problem among the variables. Similarly, Wald test for the heteroskedasticity was also been conducted. Wald test for the heteroskedasticity assess the difference between restricted and the unrestricted model. Sargan test for detecting the correlation of instruments with the error term in GMM method of analysis has been conducted on the models.

# 3.7.1 Test for Random and Fixed Effects

The first stage of panel data analysis requires the researcher to prove that the REM is significant and that the variance is not zero (0) (Baltagi, 2005). This validity assumption signifies that the model contains an unobserved effect (Wooldridge, 2002). If the criteria are not met (variance is zero), then the REM is not appropriate (Gujarati & Porter, 2015). In that case, the constant variance model is valid and would provide superior results. The Lagrangian Multipliertest provides the answer to determine the significance of the chi-square ( $\chi^2$ ) for the REM (Breusch & Pagan, 1980). The results of the Breusch Pagan Lagrangian Multiplier test for the institutional quality and human development are shown in Chapter 4.

#### 3.7.2 Hausman Test

The Hausman specification test provides an answer for a suitable panel model to choose. This is important because of the strict panel regression assumptions of the random effects model, which assume that there is no correlation between individual error components and no autocorrelation across the cross sectional and time series units (Gujarati & Porter, 2015). If the assumption is not met, the use of the REM will result in an inconsistent estimation. Hence, the Hausman specification test compares the coefficient of the FEM and REM.

#### 3.7.3 Multicolinearity Problem

A logical way to detect multicolinearity problem is through the correlation coefficient of variables. When the value of the correlation coefficient is large, the problem of Multicolinearity might emerge, even though there is a problem of defining the values considered as large, Asterious and Hall (2007) and Tabachnic and Fidell (2007) considered the VIF value of 0.9 as the threshold beyond which multicollinearity problem is likely to occur. When two or more variables are correlated they contain redundant in information and not all the information is needed in the same analysis. The redundant information increase or inflate the size of the error term and therefore weaken the analysis. To treat the problem of multicollinearity, according to Asterious and Hall (2007) and Tabachnic and Fidell (2007), the variables are transformed to log. By logging them, the problem of imperfect multicollinearity is treated.

#### **3.7.4** Heteroskedasticity Problem

The idea of Wald test for the heteroskedasticity is to assess the difference between restricted model and the unrestricted version of the model. If the restriction does not affect the fit of the model very much, it is accepted as being valid. But if the model fit is much worse, the model is rejected. The measure of how much worse a model fit can get and still be significant comes from the likelihood function that is how likely the model is correct. According to Asterious and Hall (2007), the exact way to form the test is based on the taking twice the difference between the likelihood function of the restricted and unrestricted model, the value will have  $\chi^2$  distribution with the number of degree of freedom equal to the number of restriction imposed on the model. Sometimes the heteroskedasticity test estimates the restricted model and uses the procedure to approximate the full likelihood ratio.

# 3.7.5 Autocorrelation Problem

The dynamic relationships in time-series panel data are characterized by the presence of a lagged dependent variable among the regressors, i.e.

 $[3.23] y_{it} = \delta y_{it} + x_{it} \beta_t + \varepsilon_{it}$ 

where, i = 1, ..., N; t = 1, ..., T  $\delta$  is a scalar,  $x'_{it} x' it$  is  $1 \times K$  and  $\beta$  is  $K \times 1$ .

Therefore, there is autocorrelation due to the presences of lagged dependent variables among the regressors and individual effects characterizing the heterogeneity among the individuals in time-series panel data. With time-series data, successive observations are likely to be correlated. Changes in variables, for instance institutional quality indicators are usually more gradual than abrupt; their values in one period will depend on what happened in the previous period. This dependence means that an institutional quality indicator correlates with each other in the previous period. When a variable exhibits such correlation over time, it is term as autocorrelation or serially correlation. The two terms are used interchangeably. According to Lim, Hill and Griffiths (2011), different observations in a cross-section data set, collected by way of a random sample, are typically uncorrelated. However, this research collected the data from World Bank governance indicator data base. The models are therefore not free from autocorrelation

In a nutshell, as a result of the problems of both heteroskedasticity and autocorrelation presence among the variables, the researcher further estimated Panel corrected standard error to eliminate the problems. PCSEs as proposed by Beck and Kats (1995), correct for extreme overconfidence and yield standard errors that are within 10 percent of the true variability, also for data containing heteroskedasticity and contemporaneously correlated errors. However PCSE does not address unit effects. Also as posited by Hoechle (2007) that heteroskedasticity, contemporaneously cross-sectionally correlated, and autocorrelated of type AR(1), as shown in Chapter 4. Additionally, in the discussion section, each model is discussed separately inclusive of their tables showing the panel corrected standard error estimates which serve as a basis for the researcher's discussion.

#### 3.7.6 Correlation Test

Sargan test is a method of detecting the relationship of instruments with the error term. According to the test, null hypothesis state that the instruments are valid when they are not correlated with the error term. Therefore, if Sargan test rejects the null hypothesis, the instrumental variables estimator is biased and inconsistent. Hoechle (2007) said that a Sargan test with *p*-value of more than 0.05, fail to reject the null hypothesis i.e. the over identifying restrictions are valid. Similarly, Arellano-Bond test for zero autocorrelation are estimated in the GMM analysis of the work and they are reflected in chapter four.

#### 3.8 Conclusion

This study critically explained the theoretical framework diagrammatically to show the relationship between dependent variables and independent variables. Also, the underpinning theory which relates to human capital development is reflected on the model specification as shown above. The method of analysis includes static and dynamic panel data analysis. Here research questions one to four are related to research objective one to four as shown, which states the relationship between institutional quality and human development in SSA countries. This is followed by other research questions which tallies with the research objective. The justification of variables used in the work, inclusive source of data collection, method of analysis are spelt out. Also, data collection, the period of the study, method of analysis and justification for the usage of dynamic panel technique are succinctly discussed. Lastly the pre-test and the post-test are also discussed.

## **CHAPTER FOUR**

# **RESULTS AND DISCUSSION**

#### 4.1 Introduction

This chapter is mainly devoted to present the results of the four models initially specified in Chapter 3, inclusive of the discussion of the results. The descriptive statistics and the correlation analyses are carried out to ascertain the level of the relationship of the variables. Also, in terms of the correlation matrix, the elements of multicorrelinearity among the variables are identified and dealt with in the study. In addition, estimation of institutional quality on human development and its components parts are analysed in SSA countries. The region was further divided according to lower middle-income and lowincome countries in the region and the results of investigation are shown. The empirical findings of results using static and dynamic panel data analyses are also reported.

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## 4.2 Descriptive Statistics

The World Bank classifications of countries are mainly grouped into low income countries, lower middle income countries and high income countries. However, as far as this study is concerned, SSA countries are grouped into low income and lower middle income countries. Therefore, this study make attempts in describing the total average of variables of interest of the SSA countries with some selected low income and lower middle income countries cited as examples.

Table 4.1 presents the descriptive statistics on the variables of interest and the control variables used for the SSA countries over the period 2005 to 2013. This report includes the overall mean, standard deviation, minimum and maximum values for all the variables used in the analysis. The table has shown that the average value of aggregate human development, *HDI* in SSA over the period 2005-2013 is 48.92 percent, which signifies that generally, human development in the region is weak. This is below 50 percent average value as confirmed by previous study by Tyler and Gopal (2010). Also, the minimum size of *HDI* in the region stood at 10.6 percent (for Somalia) this is in terms of the minimum level of *HDI* in the region which shows that some countries like Somali and Liberia have very low human development records. Whereas, the maximum stood at 86.9 percent (for Seychelles), this figure is associated with countries that have high level of human development like Rwanda, South Africa and Seychelles in the region.

This is also applicable to other variables in this study. Such as PCY the average in SSA countries over the same period is 3.48 percent, and the PCY range from the minimum of 0.20 percent (for Liberia) to the maximum of 23.27 percent (for Rwanda). For that of EDU is 42.16 percent for SSA countries and the EDU range from -42.00 percent (for Liberia) to 163.30 percent (for South Africa) and for LEX, the average is 56.37 for SSA countries, and it ranges from the minimum of 42.15 percent (for Liberia) to 74.88 percent (for South Africa). The variables of interest which is the institutional indicators, CI ranges from -1.92 percent (for Liberia) to 1.80 percent (for South Africa). The indicator BQI ranges from -2.67 percent (for Somalia) to 0.98 percent (for South Africa). The indicator RLI ranges from -2.67 percent (for Somalia) 73.21 percent (for Mauritius) and PRI

ranges from 5.00 percent (for Liberia) to 75.00 percent (for Seychelles. For the CI, the mean over the period is -0.61. The means for the indicators are -0.71, -0.55, and 33.97 for CI, BQI, RLI and PRI respectively.

Overall, institutional quality indicators show a negative mean value over the period meaning that SSA countries portray weak institutional qualities. The countries scoring the lowest on institutional quality are Somalia, Liberia, and Sierra Leone. These countries have been subjected to a lack of rule of law and war (especially in the case of Somalia). On the other hand, Botswana, Seychelles and South Africa score highly, meaning they have high human development index meaning there are elements of strong institutional quality in these countries.

Variables	Mean	Standard Deviation	Minimum	Maximum
HDI	48.92	0111/13-1 0 tar	10.60	86.90
РСҮ	3.48	4.33	0.20	23.27
EDU	42.16	24.51	-42.00	163.30
LEX	56.37	6.84	42.15	74.88
CI	-0.61	0.63	-1.92	1.80
BQ	-0.71	0.64	-2.67	0.98
RLI	-0.55	3.70	-2.67	73.21
PRI	33.97	13.82	5.00	75.00
HE	7.03	10.38	-30.00	105.30
GE	18.88	11.56	-8.24	75.63
SE	18.74	11.00	1.64	87.35
LAB	2.55	0.83	-2.63	4.41
INFR	7.14	14.56	0.01	130.00

Table 4.1Descriptive Statistics of Variables

#### 4.3 Correlation Analysis

Table 4.2 shows the Spearman correlation results of *HDI* and other explanatory variables. The correlation between *HDI* and *PRI* is strong since the value of correlation is 0.49, which is close to 0.50 (Cohen, 1988). However, the correlation between *HDI* and *LAB* is strong above average that is 0.52 but negative relationships. Their correlation is significant at one percent level of significant. Other variables have weak correlation with *HDI* since their correlation values are low.

Meanwhile, Table 4.3 specifically displays correlation values of *PCY* and other variables. *PCY* also has strong correlation with *PRI* since its correlation values is exactly 0.50. In addition, *PCY* also has a strong correlation value with *LAB*. Since its correlation value is 0.54 although it is negatively correlated. Correlations of *PCY* with other variables are weak because their correlation values extremely low.

Furthermore, Table 4.4 shows that correlation results of *EDU* with other variables are similar to the results of *PCY* and other variables. It shows that *EDU* has weak correlation with *PRI*. In contrast, variable *LEX* has also weak correlation with all selected variables since all correlation values shown in Table 4.5 are far less than 0.50. this implies that the coefficients are practically insignificant at 5 percent significance level which shows that there are practically no correlations between LEX and the variables of interest like RLI, CI, BQ and PRI.

Variables	HDI	CI	RLI	PRI	BQ	GE	SE	HE	LAB	INFR
HDI	1.00									
CI	0.15	1.00								
RLI	0.15	0.17	1.00							
PRI	0.49	0.27	0.21	1.00						
BQ	0.15	0.09	0.10	0.17	1.00					
GE	0.16	0.20	0.05	0.21	0.01	1.00				
SE	-0.04	-0.07	-0.01	0.09	-0.06	0.02	1.00			
HE	-0.02	0.04	0.10	0.04	0.01	0.21	-0.06	1.00		
LAB	-0.52	0.06	-0.07	-0.33	0.17	-0.25	-0.08	0.47	1.00	
INF	0.14	-0.11	0.01	0.03	0.06	-0.09	-0.04	0.14	-0.14	1.00
	0.11	0.11	0.01	0.05	0.00	0.09	0.01	0.11	0.11	1.0

Table 4.2Spearman Correlation of HDI and other Explanatory Variables

Variables	PCY	RLI	CI	BQ	PRI	HE	SE	GE	LAB	INFR
PCY	1.00									
RLI	0.20	1.00								
CI	0.09	0.17	1.00							
BQ	0.15	0.09	0.09	1.00						
PRI	0.50	0.21	0.30	0.17	1.00					
HE	0.08	0.10	0.04	0.01	0.04	1.00				
SE	0.14	-0.01	-0.07	-0.06	0.09	-0.06	1.00			
GE	0.12	0.05	0.20	0.01	0.21	0.21	0.02	1.00		
LAB	0.54	-0.07	0.06	-0.17	-0.33	-0.42	-0.08	0.25	1.00	
INF	0.11	0.01	-0.11	0.06	0.03	0.14	-0.04	0.09	-0.14	1.00

Table 4.3Spearman Correlation of PCY and other Explanatory Variables

Variables	EDU	RLI	CI	BQ	PRI	HE	SE	GE	LAB	INFR
EDU	1.00									
RLI	0.15	1.00								
CI	0.01	0.17	1.00							
BQ	0.29	0.26	0.26	1.00						
PRI	0.46	0.21	0.27	0.41	1.00					
HE	-0.08	-0.04	-0.04	0.23	-0.10	1.00				
SE	0.03	0.01	-0.10	0.08	0.10	-0.11	1.00			
GE	0.23	0.05	0.20	0.16	0.21	0.01	0.01	1.00		
LAB	-0.23	-0.07	0.06	-0.17	-0.33	-0.42	-0.08	0.25	1.00	
INF	-0.04	-0.17	-0.04	-0.11	0.01	0.03	0.06	0.07	-0.14	1.00

Table 4.4Spearman Correlation of EDU and other Explanatory Variables

Variables	LEX	RLI	CI	BQ	PRI	HE	SE	GE	LAB	INFR
LEX	1.00									
RLI	-0.01	1.00								
CI	0.02	0.17	1.00							
BQ	0.11	0.27	0.10	1.00						
PRI	0.29	0.27	0.21	0.20	1.00					
HE	0.16	-0.10	0.10	0.04	0.01	1.00				
SE	-0.04	-0.07	0.05	0.08	0.06	0.02	1.00			
GE	-0.02	0.04	0.06	0.21	0.01	0.21	0.06	SI2 <sub>1.00</sub>		
LAB	-0.33	-0.07	0.06	-0.17	-0.33	-0.42	-0.08	0.25	1.00	
INF	0.14	0.04	0.04	0.03	0.06	0.09	0.04	-0.09	-0.14	1.00

 Table 4.5

 Spearman Correlation of LEX and other Explanatory Variables

# 4.4 Panel Analysis of Institutional Quality

In this section, the study attempted to simultaneously examine the effects of institutional quality indicators such as rule of law, corruption index, bureaucratic quality and property rights on human development and its components such as standard of living, educational attainment and life expectancy. The results of panel data analysis are presented and reported. FEM and REM are estimated. In deciding the appropriate estimator, Hausman Specification Test is conducted, in line with Asterious and Hall (2007). This test guides the study on which estimator i.e. FEM or REM is more appropriate. However, Table 4.6 shows the summary of Hausman test results of the estimated 12 models. The discussion on each model is in the next section.

of Hausman Test Results		
Dependent	$\chi^2$ -value	Estimator
Variable		
U HDI ersiti	0.000	FEM
РСҮ	0.413	REM
EDU	0.000	FEM
LEX	0.183	REM
HDI (LI)	0.957	REM
РСҮ	0.000	FEM
EDU	0.047	FEM
LEX	0.000	FEM
HDI (LMI)	0.000	FEM
РСҮ	0.007	FEM
EDU	0.401	REM
LEX	0.000	FEM
	of Hausman Test Results Dependent Variable HDI PCY EDU LEX HDI (LI) PCY EDU LEX HDI (LMI) PCY EDU LEX	begendent $\chi^2$ -value           Variable $\chi^2$ -value           HDI         0.000           PCY         0.413           EDU         0.000           LEX         0.183           HDI (LI)         0.957           PCY         0.000           EDU         0.000           LEX         0.100           PDU         0.000           EDU         0.000           EDU         0.000           EDU         0.000           EDU         0.000           HDI (LMI)         0.000           PCY         0.007           EDU         0.401           LEX         0.000

Table 4.6		
Summary of Hausman Test Results		

Note: \* and \*\* indicates significance at 5 and 10 percent level of significance

#### 4.4.1 Generalized Method of Moment

GMM is used to check the limitations and shortcomings of panel data estimation as proposed by Arellano and Bond (1991), Arellano and Bover (1995) and Blundell and Bond (1998). According to Baun, Schaffer and Stillman (2007), GMM estimator is more efficient than panel and GMM does not require complete knowledge of the distribution of the data. It requires only specified moments derived from an underlying model for the estimation. According to Wooldridge (2001), GMM works by adding moments conditions under the assumption that past values of explanatory variables or past values of dependent variable are uncorrelated with the error term. On a more serious note, the efficiency and consistency of the GMM estimator depends on whether lagged values of dependent variable and other explanatory variables constitute valid instruments in the regression analysis.

To address this issues, two specific tests are conducted as suggested by Arellano and Bond (1991) and Arellano and Bover (1995). The first test was the Sargan test of overidentifying restrictions, to test the overall validity of the instruments through an analysis of the analogue sample of moment conditions used in the estimation process. The second test was the hypothesis that the error term ( $v_{ii}$ ) is not serially correlated. In other words, Arellano and Bond (1991) test for zero autocorrelations are estimated and tested for robustness; this is to ensure the fitness of the estimation. The regression by levels was tested regarding whether the serial correlation of the error term is first or second order. As far as this work is concerned, these two tests are conducted for all the four models and the results are shown accordingly. However, some of the models passed the Sargan and
Arellano-Bond at one-step while others are at twostep computation and they are reported as computed. This is followed by the presentation and discussion of the models.

#### 4.4.2 Model 1: Institutional Quality and Human Development

The study estimated the relationship between institutional quality and human development variables for the entire sample of SSA countries. The model includes a total of four institutional quality indicators. The variables are: rule of law index, corruption index, bureaucratic quality index and property right index. Also the control variables in the model include government expenditure, labour force and infrastructural facilities. Here, there are three steps taken to assess the efficacy and robustness of this model they are FEM, PCSE and GMM. The interpretation of results cover the three techniques used.

In order to decide on the appropriate model between fixed effects and random effects model, we performed Breusch and Pagan Lagrangian multiplier test. The test rejects the null hypothesis of no effects in the cross section units over the period of time as one percent level of significance, indicating that pooled OLS estimator is not appropriate in estimating the model. In other words there are country-specific effects in the data. As a result the Hausman specification test was administered and it confirmed that FEM is more appropriate as shown in Table 4.6.

The FEM results in Table 4.7 show that coefficient of *RLI* and *CI* is statistically insignificant with negative and positive relationship with human development respectively. Nevertheless, *BQI* is statistically significant at five percent level of significant but with negative signs. In other words, one percent increases in bureaucratic

quality index on average leads to -2.81 percent decreases in human development in the region. This finding does not agree with theory. Human capital development theory states that proper regulation of bureaucratic in the society enhances human development. Also, *PRI* is significant at five percent but with negative coefficient. That is to say, one percent increases in property rights index regulation activities on average leads to a decrease of about 0.18 percent in human development in the countries. This result shows that lack of property rights incentives discourages human development in the region. Among the control variables only infrastructural facilities is significant at ten percent while the other ones like *GE* and LAB are insignificant.

Considering the value  $R^2$  for PCSE, it implies that 43 percent changes of the dependent variable *HDI* is explained by all independent variables. The results in Table 4.7 show that *RLI* in relation to *HDI* is statistically insignificant with positive coefficient. Nevertheless, the relationship between corruption index (control of corruption) and human development shows a positive and significant relationship at 10 percent level of significance with human development in SSA countries. That is to say, a one percent increase in the control of corruption index in the region, on average leads to 1.26 percent increase on the level of human development. This finding lends support to human development capital theory and is supported by previous studies such as De Muro and Tridico (2008), Saulawa, (2014), and Acemoglu, Gallego and Robinson (2014). They opined that control of corruption leads to a huge breakthrough in regional imbalance especially within the SSA countries.

Institutional Quality and Hur	nan Developm	ient		
Variable	Coefficient	Standard Error	<i>t</i> -value	<i>p</i> -value
Fixed Effects:				
Constant	57 751	2 052	17 87	0 000*
RII	-0.033	0.068	-0.48	0.630
CI	0.508	0.000	0.10	0.512
BOI	-2 806	0.758	-3 70	0.000*
PRI	-0.178	0.046	-3.88	0.000*
GF	0.025	0.046	0.55	0.581
LAR	-0.185	0.040	-0.24	0.814
LINFR	0.005	0.003	1.68	0.093**
Diagnostic statistics:				
$\mathbf{R}^2$				
Within	0.101			
Between	0.343			
Overall	0.192			
PCSE:				
Constant	57.511	3.909	14.71	0.000*
RLI	0.064	0.114	0.56	0.577
CI	1.262	0.695	1.81	0.070**
BQI	1.978	1.113	1.78	0.076**
PRI	0.211	0.051	4.09	0.000*
GE	0.054	0.020	2.76	0.006*
LAB	-5.919	0.718	-8.25	0.000*
INFR	0.000	0.000	3.78	0.000*
Diagnostic statistics:				
$\mathbf{R}^2$	0.43			
Wald $\chi^2(7)$	24.89			
Prob $(\chi 2)$	0.00			
Multicollinearity	1.23			
Heteroskedasticity	5.0e+05			
Serial Correlation	6.673			

 Table 4.7

 Institutional Quality and Human Development

*F*(45,360)=23.02

*F*-Statistics

Table 4.7 Continuation

Variable	Coefficient	Standard Error	<i>z</i> -value	Prob >  z	
Constant	12.220	0.688	17.75	0.000*	
RLI	-0.144	0.002	-84.46	0.000*	
CI	-0.575	0.155	-3.72	0.000*	
BQI	-1.080	0.138	-7.82	0.000*	
PRI	-0.089	0.009	-9.42	0.000*	
GE	0.028	0.018	1.60	0.100	
LAB	0.198	0.021	9.39	0.000*	
INFR	0.000	0.000	6.11	0.000*	
Diagnostic statistic	cs:				
Wald	$\chi_8^2 = 89051.970$				
Prob ( $\chi^2$ )	0.000				
Sargan test	$\chi^2_{34} = 37.383$				
Prob> $\chi^2_{=}$	0.088				
	Order	Ζ	Prob>Z		
Arellano-Bond	1	-1.773	0.076**		
UT	2 1.3	0.170			
Note: * and ** indiantes significance at 5 and 10 percent level of significance					

GMM Results on Institutional Quality and Human Development

Note: \* and \*\* indicates significance at 5 and 10 percent level of significance

Following this, is the issue of bureaucratic quality and human development in SSA countries. The issue of bureaucratic quality is a measure that is related to rule of law and it entails regulations that guide the operational mechanisms for recruitment and training, autonomy from political pressure, and strength of expertise to govern without far-reaching changes in policy or interruptions in government's administration of the country or the economy. The relationship between bureaucratic quality and human development in Table 4.7 shows that it is positively and statistically significant at 10 percent. In other words, a one percent increases in bureaucratic quality index on average leads to 1.98 percent increase in human development in the region. This finding is in consonance with theory. It is also supported with recent studies such as Carlos (2016) asserted that improvements in institutional quality like bureaucratic quality index leads to higher human development especially in developing countries.

For the fact that bureaucratic qualities are poorly implemented, the level of human development in the region is also very low. This finding lends support to the ones reported by previous studies Mulligan (2012), Ekpo (2013) and Prochniak (2013). That lack of institutional quality such as bureaucratic quality is one of the main factors responsible for poor human development in SSA countries. Property rights index entails laws created in terms of percentage by governments in regards to how individuals, bodies can own, control and benefit from and transfer property from one entity to another. Economic theory contends that government enforcement of strong property rights is a determinant regarding the level of economic success in any given economy. Property rights are measured through a proxy of, risk of repudiation of contracts by government and risk of expropriation of private investment. Also, the relationship between property right index and human development in SSA countries, exhibits a positive sign and it is also significant at one percent level.

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This shows that property right contributes positively to human development in the region. This result corroborates with human capital development theory. In other words, one percent increase in property rights index in the economy, leads to 0.21 percent increase in human development in SSA countries. However, the ideal situation is that the level of property rights index needs to be improved which is lacking in SSA countries. When there is protection of property right through implementation of rule of law, in the society, it encourages entrepreneurs to intensify investment in all aspect of the economy. This assertion is in line with the outcome of previous studies such as Ahn and York (2011) and Osman, Alexiou and Tsaliki (2012). They claimed that security of property rights has the potential to advance human development.

The relationship between government expenditures and human development is positively and statistically significant at five percent. In other words, from the computation of the variables, it shows that one percent increase in government expenditures in the economy, leads to 0.05 percent increase in the level of human development in SSA countries. In other words, this result is in consonance to a prior expectation. In other words, with high level of government expenditures in terms of providing both recurrent and capital expenditures, in any given economy supposed to boost or increase human development in the society. This statement is in line with the outcome of previous studies such as McNeil (2007), Afonso, Schuknecht and Tanzi (2010) and Asghar, Hussain and Rahman (2012).

In terms of labour force, public infrastructural facilities and human development in SSA countries, these variables are statistically significant at one percent. That is to say that, the higher the provision of infrastructural facilities in the region, leads to a higher level of human development. This condition agrees with the human development capital theory. Ideally, the provision of infrastructural facilities in a given economy determines the level of human development which is not the case with SSA countries. This assertion lends support to the ones reported by previous studies such as Klomp and Haan (2013), De Muro and Tridico (2008), Saulawa (2014) and Acemoglu, Gallego and Robinson (2014). They opined that there is a huge regional imbalance within the countries due to poor provision of infrastructural facilities in the SSA countries.

In addition, the results of the diagnostic tests are shown in Table 4.7. These include the results of multicollinearity, heteroscedasticity and autocorrelation. However, the post estimation has shown that the model suffer from the problem of heteroscedasticity and autocorrelation. Therefore, the problem was resolved by estimating PCSE. As a result, the discussions were based on both FEM and PCSE shown in the course of the discussion above.

In addition, from Table 4.7, the GMM computation stipulates that the coefficient of *RLI* is negatively and statistically significant at five percent level of significant. It means that one percent increase in the lack of implementation of *RLI* on average leads to -0.14 percent decrease on *HDI* in the region. Therefore, the non implementation of rule of law policy regulations influences *HD* negatively. This finding is consistent with human capital development theory and supported by previous studies such as Hall and Jones (1999) and Cross and Donelson (2010) Osman *et al.* (2012). When there is no proper rule of law, it creates acrimony, promotes insecurity and lack of peace and transparency in the society

Also, corruption index exhibits a negative coefficient relationship between institutional quality and human development in SSA countries. It is statistically significant at five percent level of significance. In other words, a one percent increases on corruption index (control of corruption) on average leads to -0.58 percent decrease in human development in the entire SSA countries. This finding contradicts human capital development theory. e In an ideal situation, improvement in the control of corruption leads to enhancement on

the life of the people because funds for development are made available. This assertion is supported by previous studies such as Akcay (2006), Kaufmann, Kraay and Mastruzzi (2010) and Orubu (2013). They are of the view that corruption undermines the overall quality of governance within a country, and it leads to increased transaction costs due to delays in getting government services. With this kind of situation, human development of the people is affected adversely.

In another scenario, bureaucratic quality index is statistically significant at five percent with negative coefficient. This implies that a one percent increase in *BQ* on average leads to -1.08 percent decrease on *HDI*. In other words, lack of effective bureaucratic quality leads to low level of human development in SSA countries which is also consistent with human development capital theory. This is supported by many other studies like Mulligan (2012), Aghdam (2013), Prochniak (2013) and Acemoglu, Gallego and Robinson (2014). They assert that countries score highest on human development when bureaucracy has the strength and expertise to govern without drastic changes in policy or interruption of governmental services which is lacking in SSA countries.

In the consideration of the issue of property rights in this circumstance, the variable *PRI* shows that it is statistically significant at five percent with a negative coefficient. In other words, a one percent increases in property right regulations on average leads to a decrease of -0.09 percent of human development within the research area. This finding is not consistent with economic theory as stipulated above and supported by previous studies such as Green and Moser (2013) in the case panel study find positive association

between local property rights and manufacturing in Madagascar. While Beltencourt (2013) and Wietzke (2015) opined that regions which received stronger property rights and legal institutions in the colonial period tend to record much better economic outcomes over time than areas with comparative geographic and historical characteristics. In addition, the control variables have positive coefficient and are statistically significant at five percent except government expenditures which is statistically insignificant. This means that with the volume of government spending, it does not bust the enhancement of human development in the region.

The computation of the GMM on this model passed the Sargan test of over identifying restrictions. The  $\chi^2$  value of the Sargan test is 37.383, and the probability  $\chi^2$  is 0.088. This means that the *p*-value of the test is greater than 0.05, this shows that the instruments are valid. Also, the Arellano-Bond serial autocorrelation test was also significant. Here, first order and second order are -1.773 corresponds to 0.076 and 1.373 and 0.170, respectively. This shows that there is no autocorrelation in the model.

### 4.4.3 Model 2: Institutional Quality and Standard of Living

Furthermore, Table 4.8 presents the REM results of Model 2. The result shows that the coefficient of *RLI* is positively and statistically significant at five percent. In other words, one percent increase in the regulation of rule of law index in the region on average leads to 20.21 percent increase on the standard of living in the region. This result is in line with human capital development theory. In addition, the result is in agreement with previous studies such as Hall and Jones (1999) and Cross and Donelson (2010). They asserted that rule of law serve as an engine room that promotes peace and security and safety net for

economic growth and human development. However, in the case of SSA countries effective implementation of rule of law is lacking hence it calls for this kind of investigation.

Table 4.8				
Variable	Coefficient	<i>Living: Ranaom Effe</i> Standard Error	z-value	Prob>  <i>z</i>
Constant	52.122	65.683	4.02	0.000*
RLI	20.213	12.490	3.62	0.000*
CI	31.932	21.893	0.83	0.407
BQI	51.895	19.194	5.37	0.000*
PRI	-92.197	39.159	-4.24	0.000*
GE	55.811	92.485	2.81	0.005*
LAB	-51.603	35.054	-1.25	0.211
INFR	0.302	0.062	4.87	0.000*
Diagnostic statistics:				
R <sup>2</sup> : Within	0.215			
Between	0.024		Malauria	
Overall	0.047	ersiti Utara	Malaysia	
Wald $\chi^2$ (7)	89.69			
Prob ( $\chi^2$ )	0.000			
Multicollinearity	1.20			
Heteroskedasticity	2.3e + 06			
Serial Correlation	62.854			
F-statistics	F(45,347) =122.40	)		

GMM Result				
Variable	Coefficient	Standard Error	<i>z</i> -value	Prob>  z
Constant	1349.005	79.516	16.97	0.000*
RLI	3.503	0.035	99.44	0.093**
CI	18.433	10.978	1.68	0.000*
BQI	-54.877	7.486	-7.33	0.001*
PRI	75.594	22.037	-3.43	0.000*
GE	68.047	5.728	-11.88	0.000*
LAB	211.965	1.533	-138.28	0.000*
INFR	0.028	0.007	3.98	0.000*
Diagnostic Statis	tics:			
Wald	$\chi_9^2 = 2.04e + 06$			
Prob $(\chi^2)$	0.000			
Sargan test	$\chi^2_{34} = 30.338$			
Prob> $\chi^2_{=}$	0.299			
Arellano-Bond	Order		Z	Prob>Z
/ denano-Dolla	Unive	ersiti Utar	1.511 alays	0.131
	2	-	0.098	0.922

Table 4.8 Continuation

Note: \* and \*\* indicates significance at 5 and 10 percent level of significance

However, *CI* has a positive coefficient with standard of living but statistically insignificant. *BQI* exhibits positive relationship with standard of living and is statistically significant at five percent. In other words, one percent increase in the index of bureaucratic quality regulation, on average leads to 51.90 percent increase on standard of living of the people. This result is in line with human capital development theory and is supported by recent studies such as Carlos (2016). In his write-up, he opined that improvements in institutional quality such as bureaucratic quality index can lead to

higher income per capita, which is also observed in the contemporaneous correlation among the institutional variables.

In the same vein, *PRI* is statistically significant at one percent with a negative signs, in terms of its relationship with *PCY* in the SSA countries. This implies that one percent increase in property right index regulation on average leads to 92.20 percent decrease on standard of living in SSA countries. This result is disagree with the human capital development theory. Ideally, increase in the level of property rights index implementation burst the economic status of the people because jobs are made available in such system as is obtainable in the western world like America and Europe. This assertion is corroborated by previous studies such as Lobsiger and Zahner (2012). They are in support of the idea that the ability to accumulate private property and wealth is fundamental bedrock which motivates investors and workers in a market economy to excel.

In another scenario, among the instrumental variables, only labour force is negatively and statistically insignificant. While the others such as government expenditures and infrastructural facilities are positively and statistically significant with standard of living in the area of the study. As a result, it calls for further investigation in the nearest future.

In addition, after obtaining an appropriate model which is REM, then multicollinearity, heteroscedasticity and autocorrelation tests were performed. As shown in Table 4.8, the

diagnostic checking test results have shown that the model is free from multicollinearity, heteroscedasticity and autocorrelation problems.

For more robust check, Table 4.8, also has the GMM result which shows that the coefficient of *RLI* is positively and statistically significant at 10 percent level of significant. It means that one percent increase in *RLI*, on average leads to 3.5 percent increase in *PCY*. Therefore the implementation of rule of law policy influences the standard of living of the people positively. This finding is consistent with human capital development theory, and supported by previous studies. Ahn and York (2011) and Osman, Alexiou and Tsaliki (2012) opined that rule of law promotes; sustain peace, safety and security which constitutes the basic elements in creating and nurturing high level of standard of living. Nevertheless, this situation is not applicable in SSA countries.

Similarly, corruption index exhibits a positive relationship with standard of living in the region of study. It is statistically significant at ten percent. In other words, one percent increase in the control of corruption in the region on average leads to 18.43 increases on standard of living in SSA countries. This finding is also consistent with human capital development theory and supported by previous studies such as Akcay (2006), Kaufmann, Kraay and Mastruzzi (2010) and Orubu (2013). They are of the view that corruption undermines the overall quality of governance within a country, and it leads to increased transaction costs due to delays in getting government services. With this kind of situation, human development of the people is affected adversely.

In another scenario, bureaucratic quality index is statistically significant at five percent but has a negative coefficient. The implication of this is that, one percent increase in *BQI* adjudication on average leads to decrease to the tone of 54.88 percent on standard of living in the region. This finding is inconsistent with human capital development theory which is supported by previous studies such as Mulligan (2012), Aghdam (2013), Prochniak (2013) and Acemoglu, Gallego and Robinson (2014). They assert that countries score high in standard of living when bureaucracy has the strength and expertise to govern without drastic changes in policy or interruption of governmental services. This poses challenges to SSA countries.

Similarly, the issue of property rights index in this circumstance shows that it is statistically significant at five percent and with positive coefficient. In other words, one percent increase in property right index issues on average leads to an increase of about 75.6 percent on standard of living of the people within the research area. That is to say, as the level of freedom of property rights increases, the standard of living of the people among the countries of this study also increase due to availability of job creation by the investor. This result is consistent with economic theory and is supported by previous studies like Beltencourt (2013), Efendic and Pugh (2015) and Wietzke (2015) opined that regions which received stronger property rights and legal institutions in the colonial period have higher standard of living as can be seen in North America. In this circumstances SSA countries are lacking behind. Nevertheless, the instrumental variables such as *GE*, *LAB* and *INFR* are positively and statistically significant at five percent level of significant. This implies that they are buster to standard of living in SSA countries.

The post diagnostic check of the impact of institutional quality on standard of living in SSA countries, shows that the *PCY* model has passed the Sargan test of over identifying restrictions. From Table 4.8, the  $\chi^2$  value of the Sargan test is 30.338, and the probability  $\chi^2$  is 0.300. This means that the *p*-value of the test is greater than 0.05, this shows that the instruments are valid. Also, the Arellano-Bond serial autocorrelation test was also computed and was found to be significant. Here, first order and second order are -1.511 corresponds to 0.131 and -0.098 corresponds to 0.922 respectively. This shows that there is no autocorrelation in the model.

### 4.4.4 Model 3: Institutional Qualities and Educational Attainment

In the case of institutional quality and educational attainment model, the study employed indicators of institutional quality as usual. Table 4.9 presents the FEM results of Model 3. The result shows that the coefficient of rule of law is statistically insignificant although has a positive relationship with educational attainment in the region. This result did not conform with the human capital development theory. This finding lends support to the previous studies Acemoglu, Gallego and Robinson (2014), Satasavage (2013) and Wietzke (2015). That school attendance is higher in democratic societies where there is effective rule of law than in non-democracies as is experienced in SSA countries.

Also, corruption index is statistically insignificant with a negative coefficient. In other words, the institutional quality indicator has no substantial impact on the level of educational attainment in the region. Based on this findings, an in depth attention should be given to the control of corruption in the region.

Variable	Coefficient S	Standard Error	<i>t</i> -value	Prob> t
Constant	82.129	12.847	6.39	0.000*
RLI	0.127	0.170	0.74	0.457
CI	-1.397	1.928	-0.72	0.469
BQI	6.539	1.936	3.38	0.001*
PRI	13.335	3.102	4.30	0.000*
SE	-0.084	0.089	-0.95	0.342
LAB	2.616	1.954	1.34	0.181*
INFR	-0.003	0.001	-3.05	0.002*
Diagnostic statistics: R <sup>2</sup> : Within Between Overall	0.102 0.078 0.012			
Wald $\chi^2$ (7)	29.58 0.000			
Multicollinearity Heteroskedasticity Serial Correlation	1.24 2.4e+05 537.453	Utara	Malaysia	

Table 4.9Institutional Quality and Educational Attainment: Fixed Effect

GMM results on	Institutional Quality	ина Ейиси	ποπαι Απαιππ	ieni	
Variable	Co	efficient	Standard	<i>z</i> -value	Prob> $ z $
			Error		
Constant		5.916	0.913	6.48	0.000*
RLI		-0.004	0.005	-0.73	0.466
CI		0.171	0.099	1.74	0.082*
BQI		1.584	0.085	18.71	0.000*
PRI		1.621	0.197	8.22	0.000*
SE		0.065	0.009	7.41	0.000*
LAB		0.996	0.040	24.91	0.000*
INFR		0.001	0.000	8.70	0.000*
Diagnostic Statis	tics:				
Wald	$\chi_8^2 = 179577.90$				
Prob ( $\chi^2$ )	0.000				
Sargan test	$\chi^2_{34} = 34.495$				
Prob> $\chi^2_{=}$	0.152				
1	Order		Ζ		Prob>Z
Arellano-Bond	1.		1.309		0.191
	2.		1.387		0.165

Table 4.9 Continuation

Note: \* and \*\* indicates significance at 5 and 10 percent level of significance

However, *BQI* is positively and statistically significant at five percent. This implies that one percent increase in proper bureaucratic quality index regulations on average leads to 6.54 percent increase on educational attainment in the region. This is in agreement with the human capital development theory, also substantiated by previous studies (Aghdam *et al.*, 2013; Acemoglu, Gallego & Robinson, 2014). They summarized in their findings that the ability of government policy-making, such as efficiency in maintaining national substructures, tax gathering, and response to economic issues, social revolutions and political consistency is paramount to the realization of entrenched institutional quality in SSA countries. This is what it ought to be. Furthermore, *PRI* is statistically significant at five percent level of significant and with a positive coefficient. In other words, one percent increase in the index of property rights ethics on average leads to 13.34 percent increase on educational attainment in SSA countries. This finding is in line with human capital development theory. All things being equal, the more of property rights acquisition, the higher the level of educational attainment as posited by Acemoglu, Gallego and Robinson (2014). Considering the instrumental variables, school expenditures and labour force, are insignificant and at the same time with negative coefficient. Nevertheless, infrastructural facilities are statistically significant at one percent level of significant but with negative coefficient.

As for the post-estimation tests, after obtaining an appropriate model which is FEM, then various diagnostic checks were performed and the results are also shown in Table 4.9. These include the results of multicollinearity, heteroscedasticity and autocorrelation. However, the post estimation tests have shown that the model has no problem with heteroscedasticity and autocorrelation.

Considering the computation of GMM, from Table 4.9, the coefficient of RLI is negative and it is statistically insignificant. It means that rule of law does not contribute positively to the attainment of educational standard in the region. However this situation does not agree with human capital development theory. Therefore the implementation of rule of law policy is expected to influence the educational attainment of the people positively. Nevertheless, corruption index exhibits a positive coefficient with educational attainment in the region of study and it is statistically significant at ten percent. In other words, a one percent increases in the control of corruption in the society, on average leads to 0.17 percent increase on educational attainment in the region.

This finding is consistent with human capital development theory and also supported by previous studies such as Kaufmann, Kraay and Mastruzzi (2010). Corruption serves as a barrier to the realization of educational attainment and acquisition of knowledge in all standards in SSA countries. In another scenario, bureaucratic quality index is statistically significant at one percent level of significance with positive coefficient. This implies that a one percent increase in effective bureaucratic qualities on average leads to 1.58 percent increase in educational attainment.

That is to say, the higher the percentage of effectiveness of BQI, the higher the level of educational attainment in SSA countries. This result is in consonance with the human capital development theory and is also supported by previous studies among who are Acemoglu and Dell (2010), Gennaioli *et al.* (2013) and Acemoglu, Gallego and Robinson (2014). They opined that there is a huge regional imbalance within SSA countries and this is correlated with high level illiteracy and poor educational attainment of the populace in the region.

Furthermore, the issue of property rights index in this circumstance shows that it is statistically significant at five percent with positive coefficient. In other words, one percent increase in property right index regulation on average leads to increase of 1.62 percent on educational attainment within the research area. That is to say, as the level of freedom of property rights increase, the standard of living in terms of educational

attainment of the people among the countries of this study also improves. This result is in line with human capital development theory and is supported by previous studies such as Almendarez (2011) and Wietzke, (2015). Ideally, the higher the level of property rights acquisition, the higher the level of educational attainment as is observed in the developed world which is not attainable in SSA countries.

Nevertheless, the instrumental variables like *SE*, *LAB* and *INFR* exhibits positive coefficient and all are statistically significant at five percent level of significance. They contribute in one way or the other to the attainment of educational standard in the region. Ideally, an increase in the provision of infrastructural facilities in the region, leads to the enhancement of the educational status of the citizens in the region. In addition, this third model, the impact of institutional quality on educational attainment in the entire region of SSA countries passed the Sargan tests for over identifications of restrictions and Arellano-Bond for autocorrelation and respectively. This is shown in Table 4.9.

### 4.4.5 Model 4: Institutional Qualities and Life Expectancy

Model 4 also made use of institutional quality indicators on life expectancy. The result of Hausman shown in Table 4.6 indicates that REM is more appropriate for the analysis. From Table 4.10, the REM results of the model show that the coefficient of *RLI* is positively and statistically significant at five percent level of significance. In other words, one percent increase in the implementation of rule of law index in the region on average leads to 0.002 percent increase on life expectancy of the people. This result is in line with human capital development theory. In other words, effective enforcement/implementation of rule of law in SSA countries leads to a multiplier effect on the entire economy and life

expectancy in particular. This finding is consistent with the assertion given by previous studies such as Ahn and York (2011) that effective rule of law determines the extent of protection and enforcement of legal rights of the citizens and foreigners alike including corporate entities leads to higher standard of living of the citizens.

In view of corruption index, it shows that the coefficient is negatively related to life expectancy, and it is statistically insignificant. This situation does not agree with human development theory. This finding lends support to the ones reported by previous studies such as Kuniedia, Okada and Shibata (2011) and Popsilaghi and Mutu (2013). They assert that pervasive corruption in an economy can reinforce existing economic and social inequalities as well as intensify the depth of poverty and reduce the access by vulnerable segments of society to the basic needs of life. This situation painted here is very glaring in the SSA countries.

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Considering the *BQI*, it is statistically insignificant with a negative coefficient. In other words, this result is not in support of human development theory. This could be as a result of poor implementation of bureaucratic quality in the area of study. Woodberry (2011) and Iyer (2010) assert that the quality of contract enforcement, the police and the courts as well as the development of human resources in all ramifications are basic ingredient for rapid development in any given country or region.

Institutional Quality and Life Expectancy: Random Effect					
Variable	Coefficient	Standard Error	z-value	Prob>  <i>z</i>	
Constant	4.080	0.032	126.51	0.000	
RLI	0.002	0.003	4.61	0.000*	
CI	-0.006	0.004	-1.17	0.243	
BQI	-0.003	0.005	-0.61	0.539	
PRI	-0.037	0.006	-5.76	0.000*	
HE	-0.023	0.007	3.37	0.001*	
LAB	0.005	0.004	1.13	0.257	
INFR	0.000	1.780	11.76	0.000*	
Diagnostic statistics:					
R <sup>2</sup> : Within	0.432				
Between	0.057				
Overall	0.015				
Wald $\chi^2$ (7)	2413.56				
Prob $(\chi^2)$	0.000				
Multicollinearity	1.23				
Heteroskedasticity	15469.94	rsiti Utara	Malaysia		
Serial Correlation	148.49				
<i>F</i> -statistics	<i>F</i> (45,355)=191.44				

Table 4.10

Table 4.10 Continuation

Variable	Coefficient	Standard Error	z-value	Prob>  <i>z</i>
Constant	0.221	0.013	16.60	0.000*
RLI	0.002	0.000	65.63	0.000*
CI	0.000	0.000	2.21	0.027*
BQI	0.001	0.000	2.35	0.019*
PRI	0.002	0.000	6.70	0.000*
HE	0.000	0.000	0.93	0.351
LAB	0.000	0.000	31.21	0.000*
INFR	-4.230	1.520	-2.78	0.006*
Diagnostic Stati	stics:			
Wald	$\chi_8^2 = 473856.050$			
Prob $(\chi^2)$	0.000			
Sargan test	$\chi^2_{34} = 26.913$			
Prob> $\chi^2_{=}$	0.469			
Arellano-Bond	Order	Z		Prob>Z
Alenano-Donu		0.115	ara Malay	0.908
	BUD1 9 2.	2.400		0.164

GMM results on Institutional Quality and Life Expectancy

Note: \* and \*\* indicates significance at 5 and 10 percent level of significance

However, property rights is statistically significant at five percent but with negative coefficient. In other words, one percent increase in property rights regulations on average leads to 0.04 percent decrease on life expectancy in the region. Considering the instrumental variables, apart from labour force which is statistically insignificant, the other two variables are positively and statistically significant at one percent.

Similarly, various diagnostic checks were performed and the results are shown in Table 4.10. These include the results of multicollinearity, heteroscedasticity and autocorrelation. However, the post estimation has shown that the model does not have issues with either heteroscedasticity or autocorrelation.

In addition for robustness check, GMM results are also shown in Table 4.10. The coefficient of *RLI* is positive and it is statistically significant at one percent level of significant. It means that one percent increase in effective rule of law policies in SSA countries on average leads to 0.002 percent increase on life expectancy in the region. Nevertheless, this situation is in consonance with human capital development theory. Therefore the implementation of rule of law policy is expected to influence the life expectancy of the people positively. This assertion is supported by previous studies such as Lazarova and Mosca (2006), Knowles and Owen (2008) and Lima and Barro (2014). They are of the opinion that health is an intertwining factor, that the conditions in which people live affect their level of contribution to national growth in any given society.

Also, corruption index exhibits a positive relationship with life expectancy in the region of study. It is statistically significant at ten percent. In other words, a one percent increases in control of corruption in SSA countries on average leads to 0.001 percent increase on life expectancy in the region. This result is also in consonance with human capital development theory and is supported by previous studies such as Hansen (2013), using a cross country panel data analysis, found that a one percent rise in life expectancy at birth increases the years of schooling by 3.5 percent, which can influence income positively.

In another scenario, bureaucratic quality index is statistically significant at ten percent with positive coefficient. In other words, a one percent increase in effective bureaucratic qualities leads to 0.001 percent increase on life expectancy in SSA countries. This finding is consistent with economic theory and also supported by previous researchers like Prochniak (2013) and Acemoglu, Gallego and Robinson (2014). They opined that countries score high in life expectancy when bureaucratic quality is effective and free from renege on the part of the government's policies in power.

Furthermore, property rights show that it is statistically significant at five percent with a positive coefficient. This implies that, one percent increase in property right regulations in SSA countries, on average leads to increase of about 0.002 percent on life expectancy within the region of research area. This implies that as the level of the freedom of property rights increases, the life expectancy of the people among the countries of this study rises. This result is in line with economic theory and is supported by recent studies such as Carlos (2016). He finds evidence that exogenous improvements in institutional quality have positive and statistically significant impact on life expectancy. Also by symmetry, developing countries have higher payoffs when improving institutional quality. In a similar vein, all the control variables are statistically significant at five percent with positive coefficient except infrastructural facilities which is negative. Insofar, these variables have role to play to actualize high level of life expectancy in SSA

countries. The forth model related to the impact of institutional quality on life expectancy in the entire region of SSA countries. The *LEX* model has passed the Sargan test of over identifying restrictions and Arellano-Bond for autocorrelation respectively and also shown on Table 4.10 as in the previous model. The next section of the analysis involves the grouping of SSA countries into low-income and lower middle-income countries. Then the models are computed and discussed as done previously on the entire SSA countries.

### 4.5 Institutional Quality and Human Development in Low and Lower Middle Income

Here the researcher divided the entire SSA countries into low-income countries 25 in number which includes; Benin, Burkina Faso, Burundi, Central Africa Republic, Chad, Congo Democratic, Ethiopia, Eritrea, Gambia, Guinea, Guinea Bissau, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Niger, Rwanda, Sierra Leone, Somalia, Tanzania, Togo, Uganda and Zimbabwe. This group of countries is within the income bracket of USD785 or less.

While the Lower middle-income countries 21 in numbers and they are; Angola, Botswana, Cape Verde, Cameroon, Comoros, Congo Republic, Cote d'Ivore, Gabon, Ghana, Lesotho, Mauritania, Mauritius, Namibia, Nigeria, Sao Tome, Senegal, Seychelles, South Africa, South Sudan and Zambia, their income bracket is USD786 to USD 3,115 (World Bank, 2014). This division is computed, analysed and discussed separately as mentioned above for easy appraisal.

## 4.5.1 Model 5: Institutional Quality and Human Development in Low-income Countries

In the estimation of the institutional quality and human development model, of lowincome SSA countries, the study also employed the four selected indicators of institutional quality for the analysis. From Table 4.11, rule of law is statistically significant at ten percent with positive coefficient. The implication of this is that a one percent increase in effective implementation of rule of law index in the study area on average leads to 1.70 increases on human development in the low-income SSA countries. This finding is consistent with economic theory of human development and also supported by previous studies such as Alexiou and Tsaliki (2012). They opined that effective rule of law promotes, security which constitutes the basic elements in creating and nurturing high level of human development. However, the situation in these selected countries is contrary to the result.

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Also, the relationship between corruption index and human development in the lowincome countries is statistically insignificant although with a positive coefficient. That is to say, the higher the level of corruption index in society the lower the level of human development. This finding lends support to the ones reported by previous studies De Muro and Tridico (2008); Saulawa (2014) and Acemoglu, Gallego and Robinson (2014) opined that there is a huge regional imbalance within the SSA countries due to high level of corruption.

In another scenario, bureaucratic quality index and human development in the lowincome countries in the region, from the computation, it is statistically significant at five percent with a positive coefficient. In other words, a one percent increase in proper regulation of bureaucratic quality index in the region leads to 4.26 percent increase on human development in the selected countries.



Variable	Coefficient	Standard Error	z-value	Prob
Constant	31.693	2.452	12.93	0.000
RLI	1.697	0.877	1.94	0.053
CI	0.048	0.504	0.10	0.924
BQI	4.262	0.804	5.30	0.000
PRI	0.122	0.028	4.33	0.000
GE	-0.124	0.274	-0.45	0.651
LAB	0.870	0.502	1.73	0.084
INFR	0.620	0.168	3.70	0.000
Diagnostic statistics:				
R <sup>2</sup> : Within	0.349			
Between	0.044			
Overall	0.002			
Wald	$\chi_7^2 = 91.700$			
Prob $(\chi^2)$	0.000			
Multicollinearity	2.140			
Heteroskedasticity	3875.170			
Serial Correlation	13.170	rsiti Utara I	Malaysia	
F-statistics $F(24,1)$	90) = 93.910			

 Table 4.11

 Institutional Ouality and Human Development in Low-Income: Random Effect Model

Variable	Coefficient	Standard Error	z-value	Prob> $ z $
Constant	22.928	5.527	4.15	0.000*
RLI	0.010	0.383	-0.03	0.978
CI	-0.324	0.197	-1.64	0.101
BQI	2.053	0.342	-6.01	0.000*
PRI	0.016	0.012	1.30	0.192
GE	-0.029	0.033	-0.88	0.378
LAB	1.464	1.612	0.91	0.364
INFR	0.441	0.099	4.15	0.000*
Diagnostic Statistics:				
Wald $\chi_8^2$	= 4555.34			
Prob $(\chi^2)$	0.000			
Sargan test $\chi^2_{34}$	= 19.145			
Prob ( $\chi^2$ )	0.865			
Arellano-Bond		Order	Z	Prob>Z
A Hendrid-Dond	a Univ	arsiti Iltara	-2.560	0.067
		2.	1.972	0.625

Table 4.11 ContinuationGMM result on Institutional Quality and Human Development in Low-income

Note: \* and \*\* indicates significance at 5 and 10 percent level of significance

This implies that the more transparent of bureaucratic quality index in the society, the higher the level of human development. This finding is in line with human development theory and is supported by recent studies like Carlos (2016), find evidence that exogenous improvements in bureaucratic quality have positive and statistically significant impact on human development.

Also, the relationship between property rights index and human development in the lowincome SSA countries is statistically significant at five percent with a positive coefficient. In other words, one percent increase on the implementation of property right laws on average leads to 0.12 percent increase on human development. This finding is also in consonance with the human capital development theory and is supported by previous studies such as Ahn and York (2011) and Osman, Alexiou and Tsaliki (2012) security of property rights has the potential to advance the standard of human development.

Similarly, out of the instrumental variables used in this model, government expenditure is statistically insignificant with a negative coefficient. While the other two variables, labour force and infrastructural facilities are statistically significant with positive coefficient in terms of their relationship with human development in the region. This finding is in consonance with economic theory of human development and in line with the outcome of previous studies. Asiabaka (2008), Fosu and Mwabu (2010) and UNCTAD, (2010) assert that availability of infrastructural facilities like health equipments bust life expectancy and human development in the region.

In the estimation of the institutional quality indicators and human development model in low-income countries in SSA, this study employed the indicators of institutional quality which was previously used on past models. The Breusch and Pagan Lagrangian multiplier test was conducted. The test rejects the null hypothesis of no effects in the cross section units over the period of time as the p-value is 0.000, indicating that pooled OLS estimator is not appropriate in estimating the model due to country-specific effects in the data. Then Hausman test was conducted as usual. The result of Hausman test is shown in Table 4.6 indicates that REM is more appropriate for the analysis.

Also, various diagnostic checks were performed and the results are also shown in Table 4.11. These include the results of multicollinearity, heteroscedasticity and autocorrelation. However, the post estimation result indicates that the model does not have issues with either heteroscedasticity or autocorrelation as shown on Table 4.11.

Nevertheless, GMM was also employed to check the robustness of the model as shown in Table 4.11. It illustrates the estimation results of the relationship between institutional quality and human development in the low-income in SSA countries using the generalized method of moments. The coefficient of *RLI* is positive and statistically insignificant. The implication of this is that rule of law index as an institutional quality indicator influences negatively the *HDI* in the low-income countries of the region. In other words, as opined by Zouhaier (2012), that poor implementation of rule of law in these third world countries has contributed to the poor development of human resources with the aftermath effect of lagging behind in the commits of other countries in the world. Also, corruption index exhibits a negative relationship between human developments and is statistically insignificant. This is not in consonance with human development theory which was also reported by previous studies such as, Akcay (2006); Kaufmann, Kraay and Mastruzzi (2010) and Orubu (2013). They are of the view that corruption undermines the overall quality of governance within a country, and it leads to increased transaction

costs due to delays in getting government services. With this kind of situation, human development in these countries is adversely affected.

In another scenario, bureaucratic quality index is statistically significant with negative coefficient at five percent level of significance. This implies that a one percent increase in bureaucratic quality index within the countries of this investigation on average leads to 2.05 decrease on human development among the countries under this investigation. This result negates the human development theory. On a serious note, institutional qualities like corruption index, property rights index, rule of law index and bureaucratic quality index are not effectively undertaken and enforced in the low-income countries of the region hence the level of human development is also retarded.

In consideration of the control variables in this model, apart from infrastructural facilities which is positively and statistically significant, other variables like government expenditure and labour force expenditure are statistically insignificant with a negative coefficient. This means that with the volume of government spending in those countries, not much is being utilized to improve the facilities that enhances the human development in the region this is due to high level of looting of public funds and rent seeking activities. Additionally, the *HDI* model passed the Sargan test of over identifying restrictions after the twostep analysis. The  $\chi^2$  value of the Sargan test is 19.145, and the probability  $\chi^2$  is 0.865. This means that the *p*-value of the test is greater than 0.05, this shows that the instruments are valid. Also, the Arellano-Bond serial autocorrelation test was also significant. Here, first order and second order are 2.560 corresponding to 0.067 and 1.972 and 0.625 respectively. This shows that there is no autocorrelation in the model as shown in Table 4.11

## 4.5.2 Model 6: Institutional Quality and Standard of Living in Low-Income Countries

Here the institutional quality and standard of living model, employed indicators of institutional quality as usual. The estimation of institutional quality and standard of living in low-income countries using Model 6 is shown in Table 4.12. The table shows that the RLI is statistically significant at one percent but has negative coefficient. This implies that one percent increase on effective implementation of rule of law index in the region on average leads to about 0.18 percent decrease on the standard of living of the citizens in the region. This result is not consonance with the human capital development theory and this finding is supported by previous studies North (1994), Fogel (2006) and Ahn and York (2011). They opined that rule of law implementation entails the extent to which both life and property is protected and the masses have legal right to seek justice whenever their right is infringed upon. Also, corruption index shows that it is statistically insignificant with a negative coefficient. For that of bureaucratic quality index, is statistically significant at one percent and with positive coefficient. This implies that a one percent increase on implementation of bureaucratic quality on average leads to 0.13 percent increase on standard of living in the low-income SSA countries. This result conforms to economic theory and supported by previous studies such as Fayissa and Nsiah (2013). Using FEM and REM, and Arellano-Bond models, and the panel data for

39 SSA countries for the years 1995 to 2004 their results suggest that good governance or lack thereof, contributes to the differences in growth of African countries.

Similarly, *PRI* is statistically significant at one percent but with negative sign. The implication of this that is, one percent increase in the regulation of property rights index in the region on average leads to 0.65 percent decrease in the standard of living of the people. This result is at variance with the human capital development theory. Ideally, increases in property right acquisition supposed to enhance the living condition of the people in the region. The poor nature of institutional quality implementation has led to real backwardness experienced in this region. Nevertheless, all the control variables demonstrate some level of statistically insignificance like government expenditure and infrastructural facilities but positive.

While labour is statistically significant but negatively related to standard of living, unlike the finding of Amin (2013) and McNeil (2013) for Canada, where there is a positive relationship between labour force and economic growth vis-à-vis standard of living.

In considering the result of PCSE, the relationship between rule of law and standard of living in the low-income countries in the region, it is statistically significant at five percent with negative coefficient. It implies that one percent increase in the regulation of rule of law within the low-income countries on average leads to 63.26 percent decrease in standard of living in the area.

Variable	Coefficient	Standard Error	<i>t</i> -value	<i>p</i> -value
Fixed effects:				
Constant	4.187	0.412	10.16	0.000*
RLI	-0.181	0.050	3.54	0.001*
CI	-0.016	0.064	0.24	0.807
BQI	0.130	0.008	0.64	0.005*
PRI	-0.650	0.004	-1.95	0.004*
GE	0.642	0.087	7.36	0.000*
LAB	0.009	0.002	4.88	0.000*
LINFR	0.062	0.024	2.57	0.011*
PCSE:				
Constant	135.229	121.521	1.11	0.266
RLI	-63.270	20.882	-3.03	0.002*
CI	-80.778	18.636	-4.33	0.000*
BQI	74.707	36.698	2.04	0.042*
PRI	18.293	16.735	1.09	0.274
GE	23.856	75.188	VS 3.17	0.002*
LAB	-56.638	13.510	-4.19	0.000*
INFR	0.769	34.724	0.02	0.982
Diagnostic statistics:				
$\mathbf{R}^2$	0.16			
Within	0.51			
Between	0.09			
Overall	0.17			
Wald	$\chi_7^2 = 24.73$			
Prob ( $\chi 2$ )	0.00			
Multicollinearity	1.21			
Heteroskedasticity	36494.32			
Serial Correlation	412.22			
F-Statistics	F(24,189)=24.22			

Table 4.12Institutional Quality and Standard of Living in Low- Income Countries
Variable Coefficient Standard Error z-value Prob>|z|0.047\* Constant 0.305 0.153 1.99 RLI 0.000\*-0.0940.004 -21.54 CI0.000\*-0.092 0.019 -4.97 0.002 BQI 0.177 0.001 1.35 0.000\*PRI 0.007 0.001 6.59 GE -0.002 -4.40 0.000\*0.000 LAB -0.003 0.000 -4.60 0.000\*INFR -0.032 0.008 -4.13 0.000\***Diagnostic Statistics:**  $\chi_9^2 = 104691.310$ Wald Prob ( $\chi^2$ ) 0.000  $\chi^2_{34} = 19.932$ Sargan test Prob ( $\chi^2$ ) 0.974 Z P>Z Order 0.152 0.879 Arellano-Bond Unive<sup>1</sup><sub>2</sub>sit 1.374 0.169

Table 4.12 Continuation

GMM Results on Institutional Quality and Standard of Living in Low-Income

Note: \* and \*\* indicates significance at 5 and 10 percent level of significance

This means that proper observance of rule of law in the society is lacking. Ideally, transparent rule of law brings about increase in the standard of living of the people. In other words, the implementation of rule of law leads to an increase of standard of living of the people in SSA countries. This explanation is supported by (Ahn & York, 2011), that effective rule of law determines the extent of protection and enforcement of legal rights of the citizens and foreigners alike including corporate entities which leads to higher standard of living of the citizens.

In the same token, corruption as one of the institutional quality indicators, shows negative coefficient but statistically significant at five percent. In other words, a one percent increases in the control of corruption in low-income countries of SSA on average leads to 80.78 decreases on standard of living of the citizen under investigation. This is in consonance with previous studies that the higher the level of corruption in the society, especially the low-income countries, the lower the standard of living of the majority of the people. Akcay (2006), Kaufmann, Kraay and Mastruzzi (2010) and Orubu (2013) are of the view that corruption undermines the overall quality of governance within a country, and it leads to increased transaction costs due to delays in getting government services. With this kind of situation, the standard of living of the people is affected adversely.

Similarly, the relationship between bureaucratic quality and standard of living is significance at five percent with a positive coefficient. In other words, one percent increase in bureaucratic quality on average leads to 74.71 percent increase on the standard of living of the people in the studied countries. This finding is in agreement with economic theory and also supported with previous studies such as Mulligan (2012), Ekpo (2013) and Green and Moser (2013). That enhanced institutional quality such as bureaucratic quality accelerate standard of living in the society because jobs are created and the economic status of the people are improved, and then able to afford the basic necessities of life.

Considering property rights and standard of living of the people, it is negative and also insignificant. This scenario is not in conformity with human development theory. In an ideal situation, enforcement of property right in an economy leads to increase in standard of living of the people. This assertion is in line with the outcome of previous studies such as Ahn and York (2011) and Osman, Alexiou and Tsaliki (2012) security of property rights has the potential to advance the standard of living of the people.

Moreover, the instrumental variables in the study such as government expenditures and standard of living show that it is significant at five percent and has a positive coefficient. In addition, the relationship between labour productivity and standard of living shows that it is statistically significant at five percent but with negative coefficient. Furthermore, the relationship between the provision of infrastructural facilities and standard of living shows a negative relationship and statistically insignificant. However, with the provision of infrastructural facilities in the society, bring about increase in the standard of living of the people. This is in conformity with the assertion given by Kasekende (2008), Ahn and York (2011) and Klomp and Haan (2013), that effective provision of infrastructural facilities are bound to have higher standard of living.

It is important to note that, after obtaining an appropriate model which is FEM, then various diagnostic checks was performed and the results are also shown in Table 4.12. These include the results of multicollinearity, heteroscedasticity and autocorrelation. However, the post estimation has shown that the model has the problem of

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heteroscedasticity and autocorrelation. This problem was solved by estimating PCSE. As a result, the discussions are based on both FEM and PCSE as seen above.

Nevertheless, the GMM robust check was also conducted on this model and the result is as shown in Table 4.12. Starting with the variable rule of law, the coefficient of *RLI* is negative but statistically significant at five percent level of significant. It means that one percent increase in *RLI* on average leads to 0.09 percent decrease in *PCY*. Therefore, the implementation of rule of law policy influences the standard of living of the people negatively. In other words, rule of law adherence in the region is faulty hence standard of living is equally poor

Also, corruption index exhibits a negative relationship with standard of living in the selected countries in the region. Nevertheless, it is statistically significant at one percent. In other words, a one percent increases in corruption index (reduction in the level of corruption) on average leads to 0.09 percent decrease in standard of living of the people. Here, corruption serves as a barrier to the realization of standard of living in the low-income SSA countries. In another scenario, bureaucratic quality index is statistically insignificant but has a positive sign. In other words, effective bureaucratic quality supposed to promote the level of standard of living in SSA countries but for now is contrary.

The issue of property rights in this circumstance shows that it is significant at five percent and with positive signs. In other words, one percent increase in property right expansion, in low-income countries on average leads to 0.01 percent increase in standard of living within the research area. This result is consistent with economic theory and is supported by previous studies like Ahn and York (2011) and Osman, Alexiou and Tsaliki (2012). They opined that security of property rights has the potential to advance the standard of living of the people That is to say that as the level of the freedom of property rights increases the standard of living of the people among the countries of this study are expected to improve. In addition, all the control variables are statistically significant at five percent but shows negative coefficient with standard of living in the studied countries.

The diagnostic check was conducted and the *PCY* model has passed the Sargan test of over identifying restrictions. The  $\chi^2$  value of the Sargan test is 19.932, and the probability  $\chi^2$  is 0.974. This means that the *p*-value of the test is greater than 0.05, this shows that the instruments are valid. Also, the Arellano-Bond serial autocorrelation test was also significant. Here, first order and second order are 0.152 corresponds to 0.880 and 1.374 and 0.170, respectively. This shows that there is no autocorrelation in the model as illustrated in Table 4.12.

# 4.5.3 Model 7: FEM on Institutional Quality and Educational Attainment in Low-Income Countries

Model 7 was estimated using FEM (Table 4.6). The results of estimation are shown in Table 4.13. The table shows that all the variables' has negative coefficient such as RLI, CI, BQI, SE, LAB and INFR except the coefficient of PRI which is has a positive sign. Also, RLI, CI and PRI are statistically significant at the conventional level of

significance. The rule of law index is statistically significant at five percent but shows negative coefficient. In other words, one percent increase in rule of law index implementation in the region on average leads to 0.04 percent decrease on educational attainment of the people in the area of this study. This is not in agreement with human development theory and this finding lays credence to previous studies such as Osman, Alexiou and Tsaliki (2012) and Cross and Donelson (2010). In their submission that rule of law serve as an engine room that promotes peace and security and safety net for educational attainment.

Corruption index is also statistically significant at five percent but with negative coefficient. This implies that one percent increase on the control of corruption on average leads to 0.05 percent decrease on educational attainment. This result also contravenes the human development theory. Ideally, control of corruption in the society leads to increase on educational attainment because funds that were supposed to be stolen is made available for judicious use for the people's education as asserted by Barro and Lee (2013); Beltencourt (2013) and Wietzke (2015).

Nonetheless, *BQI* is statistically insignificant with a negative coefficient. While, property rights index is statistically significant at five percent level of significance with positive coefficient. In other words, a one percent increases on effective implementation of property right in the region on average leads to 0.13 percent increase on educational attainment in low-income SSA countries. This result is consistent with economic theory and also supported by previous studies such as Fosu and Mwabu (2010), Almendarez

(2011) and Wietzke (2015). They assert that security of property rights has the potential to advance the standard of living and educational attainment.

Variable	Coefficient	Standard Error	<i>t</i> -value	<b>Prob&gt;</b>   <i>t</i>
Constant	6.828	0.127	53.56	0.000*
RLI	-0.042	0.013	3.32	0.001*
CI	- 0.045	0.017	-2.63	0.009*
BQI	-0.002	0.022	-0.13	0.895
PRI	0.128	0.024	5.38	0.000*
SE	-0.020	0,014	-1.43	0.156
LAB	-0.018	0.017	-1.08	0.282
INFR	-0.009	0.005	-1.68	0.095**
Diagnostic statistics:				
R <sup>2</sup> : Within	0.300			
Between	0.006			
Overall	0.009			
Wald	$\chi_7^2 = 282.320$			
Prob $(\chi^2)$	0.000	ersiti Utara	Malaysia	
Multicollinearity	1.320			
Heteroskedasticity	54239.280			
Serial Correlation	171.012			
<i>F</i> -statistics $F(24,$	193) = 913.23			

 Table 4.13

 Institutional Quality and Educational Attainment in Low-Income Countries: Fixed Effect

#### Table 4.13 Continuation

Variable	Coefficient	Standard Error	<i>z</i> -value	Prob>  $z$
Constant	17.522	3.567	4.91	0.000*
RLI	1.016	2.371	0.43	0.668
CI	-2.192	0.761	2.88	0.004*
BQI	0.012	0.071	0.18	0.860
PRI	-0.267	0.067	-3.97	0.000*
SE	0.264	0.044	6.03	0.000*
LAB	-0.138	0.015	-9.47	0.000*
INFR	0.963	0.336	2.86	0.004*
Diagnostic Statistics	:			
Wald $\lambda$	$\chi_2^9 = 12526.560$			
Prob $(\chi^2)$	0.000			
Sargan test	$\chi^2_{34} = 19.428$			
Prob $(\chi^2)$	0.979			
		Order	Z	P>Z
Arellano-Bond	Univ	e <u>r</u> siti Utara	0.637	0.524
		2.	0.241	0.810

GMM Results on Institutional Quality and Educational Attainment in Low-Income

For the instrumental variables apart from *INFR* which is statistically significant at ten percent but with negative coefficient, The other variables like *SE* and *LAB* are insignificant in terms of their relationship with educational attainment in the sub-region. In other words, lack of encouragement from government through effective educational policies on education contributed to the high level of illiteracy in the region. This assertion lends support to the ones reported by previous studies Klomp and Haan (2013), De Muro and Tridico (2008), Saulawa (2014) and Acemoglu, Gallego and Robinson

Note: \* and \*\* indicates significance at 5 and 10 percent level of significance

(2014) opined that there is a huge regional imbalance within the countries due to poor implementation of educational policies in the SSA countries in general and the selected low-income countries in particular.

Various diagnostic checks were performed and the results are also shown in Table 4.13. These include the results of multicollinearity, heteroskedasticity and autocorrelation. However, the post estimation has shown that the model has no issue of heteroskedasticity and autocorrelation. The discussion was based to on FEM as it relates to the model.

In addition, GMM was also computed for this model and the result is reflected in Table 4.13 and the interpretation is done thus. *RLI* is statistically insignificant, but with positive coefficient. In this circumstance it means that rule of law index does not contribute positively to the educational attainment in the region. However this situation is in contrary to human capital development theory. Therefore the implementation of rule of law policy is expected to influence the educational attainment of the people positively. Nevertheless, corruption index is statistically significant at five percent level of significance, with negative coefficient. In other words, one percent increase in corruption index (control of corruption) on average leads to 2.19 percent decrease in educational attainment in the region. This finding is inconsistent with the human development theory and supported by previous studies such as Barro and Lee (2010), Frankema (2013), Saulawa (2014) and Acemoglu, Gallego and Robinson (2014) they opined that there is a huge regional imbalance within the countries due to poor provision of infrastructural facilities in the SSA countries as a result of high level of corruption.

In another scenario, bureaucratic quality index is insignificant but has positive sign. In other words, increase in effective bureaucratic qualities index in the society, suppose to increase the level of educational attainment when all other things are held constant. That is to say, the higher the effectiveness of *BQI*, the higher the level of educational attainment in SSA countries other things being equal. This result is not in consonance with human development theory. Hence something needs to be done to improve the educational standard through effective regulation of bureaucratic quality index in the low-income countries of SSA region.

Furthermore, the issue of property rights index shows that it is statistically significant at one percent, but with a negative coefficient. In other words, one percent increase in property rights index regulations, on average leads to a decrease of 0.27 percent of educational attainment within the research area. That is to say, as the level of the freedom of property rights increases, the standard of living of the people among the countries of this study falls. This is contrary to human development theory. Ideally, the higher the level of property rights acquisition, the higher the level of educational attainment so as to meet the challenges of research and development as a driving force for greater property rights acquisition in any given society as is obtainable in the developed world.

It is of interest to note that, the control variables are statistically significant at one percent level of significance, with positive signs except labour force which has negative relationship with educational attainment in the region. The educational attainment model passed the Sargan test of over identifying restrictions (endogeneity), after twostep has been computed as shown on the Table 4.13. The  $\chi 2$  value of the Sargan test is 19.428, and the probability  $\chi 2$  is 0.979. This means that the *p*-value of the test is greater than 0.05, this shows that the instruments are valid. Also, the Arellano-Bond serial autocorrelation test was also significant. Here, first order and second order are 0.637 corresponds to 0.524 and 0.241 and 0.810 respectively. This shows that there is no autocorrelation in the model.

# 4.5.4 Model 8: Institutional Quality and Life Expectancy in Low-Income Countries

The estimation results of Model 8 using FEM, PCSE and GMM are shown in Table 4.14. For PCSE, all coefficients are statistically significance at the conventional level of significance. But, coefficients of *CI* and *LAB* are statistically insignificant for FEM estimation.

The relationship between rule of law and life expectancy in low-income SSA countries shows that *RLI* is statistically significant at five percent level of significance with negative coefficient. This implies that a one percent increase in the implementation of rule of law index within the countries of this study on average leads to 1.34 percent decrease on life expectancy of the citizens. This result is not consistent with economic theory of human development. Also previous studies such as Lazarova and Mosca (2006); Knowles and Owen (2008) and Eyyup (2013), are of the view that income per capita, education and public access to health care improves life expectancy at birth,

whereas, income inequality has an adverse effect on the measure of health which can be attained when there is guided rule of law in the society.

Variable	Coefficient	Standard Error	<i>t</i> -value	<i>p</i> -value
Fixed effects				
Constant	58.932	1.568	37.59	0.000*
RLI	-1.337	0.694	1.93	0.056*
CI	-0.492	0.407	-1.21	0.228
BQI	2.696	0.635	4.25	0.000*
PRI	-0.133	0.022	-6.10	0.000*
GE	0.086	0.010	9.35	0.000*
LAB	-0.355	0.442	-0.80	0.423
LINFR	0.001	0.000	8.15	0.000*
PCSE	AYS			
Constant	54.501	1.284	42.44	0.000*
RLI	-4.314	0.837	5.15	0.000*
CI	-1.662	0.349	-4.76	0.000*
BQI	-1.045	0.610	-1.71	0.086*
PRI	0.038	0.023	1.68	0.093**
GE	0.038	0.020	1.85	0.065*
LAB	0.890	0.336	2.65	0.008*
INFR	0.000	0.000	7.81	0.000*
Diagnostic statistics:				
$R^2$	0.97			
Within	0.55			
Between	0.01			
Overall	0.06			
Wald	$\chi_7^2 = 32.97$			

Table 4.14 Continuation

Prob $(\chi^2)$	0.00
Multicollinearity	1.98
Heteroskedasticity	6152.07
Serial Correlation	148.49
F-Statistics	<i>F</i> (24,193) = 87.57

GMM Results on Institutional Quality and Life Expectancy in Low-Income

Variable	Coefficient	Standard Error	<i>z</i> -value	Prob>  <i>z</i>
Constant	1.817	0.415	4.38	0.000*
RLI	-0.185	0.014	12.95	0.000*
CI	- 0.043	0.011	3.81	0.000*
BQI	0.180	0.025	7.31	0.000*
PRI	0.005	0.000	7.34	0.000*
HE	0.004	0.001	2.94	0.003*
LAB	0.168	0.031	5.52	0.000*
INFR	-0.000	3.460	-28.26	0.000*
Diagnostic Statistics:				
Wald $\chi_8^2$	= 950010.590			
Prob $(\chi^2)$	0.000	ersiti Utara	a Malaysia	
Sargan test	$\chi^2_{23} = 19.178$			
Prob ( $\chi^2$ )	0.691			
		Order	Z	P>Z
Arellano-Bond		1.	1.842	0.066
		2.	1.924	0.061

Note: \* and \*\* indicates significance at 5 and 10 percent level of significance

However, corruption index shows that it is statistically insignificant with negative coefficient in terms of its relationship with life expectancy. Considering bureaucratic quality, it is statistically significant at five percent with positive coefficient. This implies

that a one percent increase in bureaucratic quality index regulations leads to 2.70 percent in life expectancy of the region. This finding is consistent with the theory and supported by many other studies such as Mulligan (2012), Ekpo (2013) and Green and Moser (2013). They asserted that enhanced institutional quality such as bureaucratic quality accelerate standard of living in the society and improves life expectancy because jobs are created and the economic status of the people is improved.

In addition, as far as the low-income in SSA countries is concerned, property rights index is statistically significant at five percent but with negative coefficient. In other words, one percent increase in property right in the region on average leads to 0.13 percent decrease on life expectancy in the entire region. This is at variance with human development theory as noted by many studies like Fosu and Mwabu (2010), Almendarez (2011) and Wietzke (2015). They assert that security of property rights has the potential to advance the standard of living and educational attainment and life expectancy in Africa. However, of all the control variables, only labour force that is insignificant with negative coefficient in terms of relationship with life expectancy. While HE, and INFR are positively and statistically significant at five percent level of significant.

In considering the result of PCSE, the relationship between rule of law and life expectancy in the low-income countries in the region, it is statistically significant at five percent with negative coefficient. This result implies that a one percent increase on the effective regulation of rule of law in the selected countries on average leads to 4.31 percent decrease on life expectancy in the region. The result is not consistent with economic theory and is supported by previous studies among is Hansen (2013), using a cross-country panel data analysis, found that a one percent rise on life expectancy at birth increases the years of schooling by 3.5 percent, which can influence income positively. In other words, effective rule of law in the society brings about the implementation of health plan for the people which leads to prolong life expectancy.

Moreover, the relationship between corruption index (control of corruption) and life expectancy from Table 4.14 shows that corruption index is statistically significant at five percent but with negative coefficient with life expectancy. In other words, a one percent increases on the reduction of corruption in the studied area on average leads to 1.66 decreases on life expectancy in the region. The finding is inconsistent with economic theory of human development which agrees with previous studies such as Kuniedia, Okada and Shibata (2011), Popsilaghi and Mutu (2013) and Eyyup (2013). These authors observed that evidence on the negative impact of corruption, is enormous, it bring about reduction in economic efficiency and capital formation thereby stultifying growth in all area of human endeavor.

Furthermore, the relationship between bureaucratic quality index and life expectancy is statistically significant but with negative coefficient at ten percent. This implies that a one percent increase on effective bureaucratic quality index in the selected countries on average leads to 1.05 percent decrease on life expectancy. The effect of bureaucratic quality on life expectancy in SSA countries is not in cognizance with human development theory. In other words, an ideal situation, with adequate bureaucratic quality

in the society, supposes to increase performance in economic activities thereby creating employment and vis-à-vis increase life expectancy of the citizens. This finding is in line with the outcome of previous studies like Zak and Knack (2001), Knowles and Owen (2008) and Eyyup (2013).

Also, the relationship between property right and life expectancy is statistically significance at 10 percent level of significance, but with negative coefficient. The implication of this is that a one percent increase on positive regulation of property right in the selected countries on average leads to 0.04 percent decrease on life expectancy in the region. This finding is inconsistent with economic theory and as supported by previous studies such as Ahn and York (2011) and Osman, Alexiou and Tsaliki (2012). They claimed that security of property rights has the potential to advance the standard of living and life expectancy of the people.

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In another scenario, all the control variables in this model are all statistically significant at least five percent level of significance with positive coefficient. This shows that all the control variables have positive impact on life expectancy among the countries investigated in SSA countries.

After estimating the coefficients of the model, then various diagnostic checks, which include multicollinearity, heteroscedasticity and autocorrelation, were performed. These include the results of multicollinearity, heteroscedasticity and autocorrelation. However, the post estimation has shown that the model has the problem of heteroskedasticity and autocorrelation. This problem was resolved by estimating panel corrected standard error (PCSE). As a result, the discussions are based on both FEM and PCSE as shown in table 4.14.

However, the GMM robust check was also computed as shown in Table 4.14. *RLI* is statistically significant at five percent level of significance, but with negitive coefficient. It means that one percent increase in effective rule of law policies on average leads to 0.19 percent decrease on life expectancy in the region. This situation also is not in line with human development theory. Therefore the implementation of rule of law policy is expected to influence the life expectancy of the people positively. This opinion is supported by previous studies such as Lazarova and Mosca (2006). Used a sample of 112 countries (which is representative of a wide range of absolute income and institutional indicators from Kaufmann et al. (1999) for the years 1996, 1998, and 2000 using OLS Lazarova and Mosca found that rule of law has a positive effect on life expectancy.

In this circumstance, corruption index exhibits a negative coefficient with life expectancy in the region of study. It is statistically significant at one percent. In other words, one percent increase in corruption index level (reduction in corruption) which has to do with transparency, on average leads to 0.04 percent decrease on life expectancy. This finding is inconsistent with economic theory and it is supported by previous studies like Akcay (2006), Kaufmann, Kraay and Mastruzzi (2010) and Orubu (2013). They are of the view that corruption undermines the overall quality of governance within a country, and it leads to increased transaction costs due to delays in getting government services. Also, bureaucratic quality index is statistically significant at one percent and also has a positive sign. In other words, a one percent increases in effective bureaucratic quality index on average leads to 0.22 percent increase on life expectancy in the low-income SSA countries. That is to say, the higher the effectiveness of bureaucratic quality index exhibited in the countries, the higher the level of life expectancy in those selected SSA countries. This result is in consonance with human development theory. In reality, the more effective the bureaucratic quality index in the society, the increase the life expectancy of the people. This finding is in line with previous studies such as Mulligan (2012), Prochniak (2013) and Acemoglu, Gallego and Robinson (2014).

Furthermore, the issue of property rights in this circumstance shows that it is statistically significant at five percent with a positive coefficient. In other words, an increase of one percent on property right index on average leads to 0.01 percent increase on life expectancy within the studied countries. That is to say as the level of the freedom of property rights increases, the life expectancy of the people among the countries of this study is sustained. This finding is in consonance with human development theory, and is substantiated by recent studies like Carlos (2016) argued that exogenous improvements in institutional quality like property right have positive and statistically significant impact on life expectancy and that by symmetry, developing countries have higher payoffs when improving institutional quality. In a similar vein, all the control variables are all statistically significant at five percent with positive coefficient except infrastructural facility which has a negative relationship with life expectancy in the studied area.

In furtherance of this research, institutional quality and life expectancy model was subjected to GMM diagnostic check computation and the result is reflected in Table 4.14. The *LEX* model has passed the Sargan test of over identifying restrictions. The  $\chi^2$  value of the Sargan test is 19.178, and the probability  $\chi^2$  is 0.691. This means that the *p*-value of the test is greater than 0.05, which implies that the instruments are valid. Also, the Arellano-Bond serial autocorrelation test was also conducted. Here, first order and second order are given as; 1.842 corresponds to 0.066 and 1.924 and 0.610 respectively which shows that there is no autocorrelation in the model.

# 4.5.5 Model 9: Institutional Quality and Human Development in Lower Middle-Income Countries

From Table 4.15, rule of law index and human development in the selected lower middleincome SSA countries indicates that *RLI* is statistically insignificant and it has a negative coefficient. Similarly, corruption index is also statistically insignificant with a negative relationship with human development. For that of *BQI*, it is statistically significant at five percent although with negative coefficient. In other words, one percent increase in a proper administration of bureaucratic quality index in the selected countries on average leads to 4.64 percent decrease in human development in the studied area. This result does not conform to human capital development theory. Ideally, as the *BQI* are formulated and implemented, supposed to raise the level of human development in the region. This is ascertained by previous authors (Acemoglu, Gallego & Robinson, 2014 and Mulligan, 2012), that *BQI* affects human development either positively or negatively in any given country depending on the mode of implementation of such policies.

Table 4.15Institutional Quality and Human Development in Lower Middle-Income Countries: FixedEffect

Variable	Coefficient	Standard Error	<i>t</i> -value	Prob> t
Constant	75.944	6.310	12.04	0.000*
RLI	-0.030	0.092	-0.33	0.744
CI	-2.366	1.481	-1.60	0.112
BQI	-4.642	1.751	-2.65	0.009*
PRI	-0.519	0.094	-5.51	0.000*
GE	0.109	0.088	1.24	0.216
LAB	-0.861	1.281	-0.67	0.502
INFR	-0.499	0.602	-0.83	0.409
Diagnostic statistics:				
R <sup>2</sup> : Within	0.192			
Between	0.365			
Overall	0.162			
Wald $\chi_7^2$	14.360			
Prob $(\chi^2)$	0.000			
Multicollinearity	1.32			
Heteroskedasticity	42824.85	rsiti Utara	Malaysia	
Serial Correlation	5.63			
F-statistics $F(20, 1)$	61) = 12.31			

#### Table 4.15 Continuation

Variable	Coefficient	Standard	l Error	z-value	Prob> $ z $
Constant	11.225		6.288	1.79	0.074**
RLI	-0.148		0.005	29.81	0.000*
CI	-0.413		0.326	-1.27	0.206
BQI	0.603		0.075	8.02	0.000*
PRI	-2.078		1.703	-1.22	0.222
GE	-0.655		0.846	-0.77	0.439
LAB	0.233		0.311	0.75	0.453
INFR	0.650		0.177	3.68	0.000*
Diagnostic Statistic	28:				
Wald $\chi_8^2$	222730.570				
Prob $(\chi^2)$	0.000				
Sargan test $\chi$	$^{2}(34) = 16.749$				
Prob> $\chi^2_{=}$	0.937				
		Order	Likewa	Z	P>Z
Arellano-Bond	DI BAR UNIX	ersiti	Utara	-1.469	0.142
		2.		1.225	0.221

GMM Results on Institutional Quality and Human Development in Lower Middle-Income

Note: \* and \*\* indicates significance at 5 and 10 percent level of significance

In addition, *PRI* is statistically significant at one percent and also with negative coefficient. This implies that a one percent increase in the proper regulation of property rights ethics in the society on average leads to 0.52 percent decrease in the level of human development in the region. This finding negates human capital development theory. This signifies that PRI either not implemented or does not perform its role of social responsibility in the area of this study. Nevertheless, the instrumental variables are

statistically insignificant with a negative coefficient in terms of their relationship with human development in the lower middle-income SSA countries.

It is important to note that, model nine after obtaining an appropriate model through Hausman test which is FEM as shown on Table 4.6, then various diagnostic checks was performed and the results are also shown on Table 4.15. These include the results of multicollinearity, heteroscedasticity and autocorrelation. However, the post estimation has shown that the model has no issue of heteroscedasticity and autocorrelation.

For further robustness check, this study computed the GMM as shown in Table 4.15. Rule of law index is statistically significant at five percent but with negative coefficient. In other words, a one percent increases in the proper implementation of rule of law in the countries under investigation, on average leads to 0.15 percent decrease on human development activities in the selected countries. The implication of this is that rule of law as an institutional quality influences HD in the lower middle-income countries negatively in the region. This finding is inconsistent with human development theory and supported by previous studies such as Law, Lim and Ismail (2013), who found that institutions are more responsive in promoting growth in all countries and the role of institutions is minimal in influencing growth in lower middle income countries.

Also, corruption index is statistically insignificant with a negative relationship with human development. In another scenario, bureaucratic quality index is statistically significant at five percent level of significance with positive coefficient. The implication of this is that a one percent increase in the regulation of bureaucratic quality in lower middle income SSA countries on average leads to 0.60 percent increase on human development in the studied area. This finding is in agreement with economic theory and is supported by recent studies like Carlos (2016), he finds evidence that exogenous improvements in institutional quality have positive and statistically significant impact on human development. However, property right index is statistically insignificant with a negative coefficient. This means that *PRI* does not contribute in any way to the improvement of human development in the lower middle-income SSA countries.

Nonetheless, from the control variables, only infrastructural facility is statistically significant with positive coefficient while the other control variables are statistically insignificant although with positive coefficient.

This study carried out post diagnostic check on the model and discovered that it passed the Sargan test of over identifying restrictions. The  $\chi^2$  value of the Sargan test is 16.749, and the probability  $\chi^2$  is 0.937. This means that the *p*-value of the test is greater than 0.05, this shows that the instruments are valid. Also, the Arellano-Bond serial autocorrelation test was also not significant. Here, first order and second order are -1.469 corresponds to 0.142 and 1.225 and 0.221, respectively. This shows that there is no autocorrelation in the model all these are shown in Table 4.15.

# 4.5.6 Model 10: Institutional Quality and Standard of Living in Lower Middle -Income Countries

The estimated results of Model 10 are shown in Table 4.16. The result reveals that *RLI*, is statistically significant with negative coefficient at five percent level of significance. In other words, a one percent increases in the regulation of the rule of law index in the society on average leads to 42.88 percent decrease on the standard of living of the people in the selected lower middle-income SSA countries. This finding disagrees with human development theory and supported by previous studies such as Efendic and Pugh (2015) and Carlos (2016). They opined that improvements in institutions can lead to higher income per capita, which is also observed in the contemporaneous correlation among the institutional variables. However, *CI* is statistically insignificant and is negatively related to *PCY* in the selected countries of the region.

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Effect				
Variable	Coefficient	Standard Error	<i>t</i> -value	Prob> $ t $
Constant	83.881	121.321	6.86	0.000*
RLI	-42.882	11.846	3.62	0.000*
CI	-27.851	20.910	-1.33	0.184
BQI	11.550	23.576	4.86	0.000*
PRI	9.420	34.550	-2.74	0.007*
GE	7.485	11.592	0.65	0.519
LAB	-21.123	16.936	-1.28	0.202
INFR	0.751	0.110	6.84	0.000*

Institutional Quality and Standard of Living in Lower Middle-Income Countries: Fixed Effect

Table 4.16

Table 4.16 Continuation

Diagnostic statistics:

R <sup>2</sup> : Within	0.401
Between	0.047
Overall	0.017
Wald	$\chi_7^2 = 15.390$
Prob ( $\chi^2$ )	0.000
Multicollinearity	1.30
Heteroskedasticity	30910.62
Serial Correlation	95.33
F-statistics $F(20,$	161) = 242.32

GMM Results on Institutional Quality and Standard of Living in Lower Middle-Income

Variable	Coefficient	Standard Error	<i>z</i> -value	Prob>  $z$
Constant	26.349	98.291	2.68	0.007*
RLI	-5.416	1.827	1.33	0.018*
CI	-30.315	60.973	2.25	0.025*
BQI	-23.291	44.782	-5.33	0.000*
PRI	-18.452	111.538	-1.07	0.053**
GE	-16.381	11.568	ra Ma -1.99	a 0.046*
LAB	-291.571	13.848	-22.44	0.000*
INFR	0.216	0.020	11.35	0.000*
Diagnostic Statist	ics:			
Wald	$\chi_8^2 = 10847.070$			
Prob ( $\chi^2$ )	0.000			
Sargan test	$\chi^2_{34} = 13.702$			
Prob> $\chi^2_{=}$	0.984			
		Order	Z	P>Z
Arellano-Bond		1.	-1.437	0.151
		2.	-0.602	0.547

Note: \* and \*\* indicates significance at 5 and 10 percent level of significance

However, *BQI* is statistically significant with positive coefficient at five percent level of significance. This implies that one percent increase in *BQI* implementation on average leads to 11.55 percent increase on standard of living of the people in the region generally. This finding is in line with human development theory and is supported by previous studies among who is Fayissa and Nshiah (2013), uses OLS from data covering 25 central and Eastern European and former Soviet Union countries from 1989 to 1997. He found that institutional qualities especially rule of law and bureaucratic qualities are positively related to growth in the transitional countries.

In addition, property right is statistically significant at five percent with positive coefficient. In other words, a one percent increases in proper implementation of property right in the selected countries on average leads to 9.42 percent increase on standard of living of the people. This finding is consistent with theory and is supported by previous research such as Hansen (2013), using a cross-country panel data analysis, found that a one percent rise in life expectancy at birth increases the years of schooling by 3.5 percent, which can influence income positively. Similarly, the instrumental variables such as GE and LAB are statistically insignificant, is only INFR that is statistically significant at one percent. This shows that these variables are related to standard of living in one way or the other in lower middle-income SSA countries.

In another scenario, after obtaining an appropriate model through Hausman test which is FEM as shown on Table 4.6, then various diagnostic checks were performed and the results are also shown on Table 4.16. As usual these include the results of multicollinearity, heteroscedasticity and autocorrelation. However, the post estimation has shown that the model has no issue of heteroscedasticity and autocorrelation.

This study further proceeded to apply GMM for robustness check as shown in Table 4.16 and the interpretation follows thus, *RLI* is statistically significant at five percent level of significance but with negative coefficient. It means that one percent increase in *RLI*, on average leads to 5.42 percent decrease on standard of living within the area of this study. Therefore the non-implementation of rule of law policy influences the standard of living of the people negatively. This result disagrees with human development theory. Apart from that, the result is in line with previous studies Prochniak (2013). He investigated the extent to which the institutional environment is responsible for worldwide differences in economic development. The analysis covers 153 countries and the period 1994 to 2009. The empirical analysis confirms a large positive impact of the quality of the institutional environment on the level of economic development by laying much emphasis on rule of law.

Also, corruption index exhibits a negative relationship and is statistically significant at five percent level of significance with standard of living in the selected countries in the region. In other words, a one percent increase in corruption index (control of corruption) will on average leads to 30.32 percent decrease on standard of living of the people. This result is in disagreement with human development theory. The results of this research are in line with the study of (Lambsdorff, 2008; Kuniedia, Okada & Shibata, 2011 and Popsilaghi and Mutu, 2013). They observed from their findings that pervasive corruption

in an economy can reinforce existing economic and social inequalities as well as intensify the depth of poverty and reduce the access by the vulnerable segments of society to the basic needs of life.

In addition, bureaucratic quality index is statistically significant at five percent but the coefficient is negatively related to standard of living. This implies that increase in effective bureaucratic qualities in these countries on average leads to 23.29 percent decrease on the level of standard of living in SSA countries. This result is not in line with human development theory. In another scenario, the issue of property rights in this circumstance, the variable, shows that it is statistically significant at one percent but with negative sign. In other words, one percent increase in property right in lower middle-income countries on average leads to -18.45 percent decreases on standard of living within the research area. That is to say that as the level of the freedom of property rights increases the standard of living of the people among the countries of this study decreases. This result is not in consonance with human development theory. Also is in line with previous studies (Elisa and Peluso, 2011 and Lobsiger and Zahner, 2012). They assert that the ability to accumulate private property and wealth is fundamental bedrock which motivates investors and workers in a market economy.

Nevertheless, the control variables are statistically significant but with negative coefficient. In other words, the instrumental variable contributes little or nothing to the standard of living of the people. The standard of living model passed the Sargan test of over identifying restrictions after two step was computed. The  $\chi^2$  value of the Sargan test

is 13.702, and the probability  $\chi^2$  is 0.984. This means that the *p*-value of the test is greater than 0.05, this shows that the instruments are valid. Also, the Arellano-Bond serial autocorrelation test was also not significant. Here, first order and second order are -1.437 corresponds to 0.151 and -0.602 and 0.547 respectively. This shows that there is no autocorrelation in the model as illustrated in Table 4.16.

### 4.5.7 Model 11: Institutional Quality and Educational Attainment in Lower Middle-Income Countries

Table 4.17 shows the estimation results of the relationship between institutional quality and educational attainment in Lower Middle-Income countries in SSA countries using both REM and PCSE. Considering the random effect of the relationship between institutional quality and educational attainment in the lower middle-income SSA countries, *RLI* is statistically insignificant with negative coefficient with educational attainment of the selected lower middle-income countries.

Also, *CI* is equally statistically insignificant but positively related to *EDU*. However, *BQI* shows that it is statistically and positively significant at five percent. In other words, one percent increases in bureaucratic quality implementation, on average leads to 14.20 percent increase on educational attainment in middle-income in SSA countries. This result is in agreement with human development theory. Apart from that, this finding is in line with previous studies such as Fayissa and Nsiah (2013), using fixed and random effects, and Arellano-Bond models; investigate the role of governance in explaining the sub-optimal economic growth performance of African economies. Their finding

concludes that without the establishment and maintenance of institutional qualities, achieving the goals of NEPAD is impossible.

In the same vein, *PRI* shows that, it is statistically insignificant and has negative coefficient with educational attainment in the selected countries of the region. However, form the control variables, it shows that none of them is statistically significant but they contribute in one way or the other to the realization of educational attainment in the region.

Nonetheless, this study assess further the relationship of the dependent and independent variables by applying the PCSE as previously mentioned to resolve the issue of both heteroscedasticity and autocorrelation. From Table 4.17, *RLI* is statistically insignificant with a negative coefficient. Nonetheless, corruption index is statistically significant at five percent level of significance with a positive relationship with educational attainment in the region of study.

In other words, a one percent increases in the control of corruption in lower middle income SSA countries on average leads to 6.41 percent increase on educational attainment in the countries under investigation. This finding is consistent with human development theory and also supported by previous studies such as Akcay (2006); Kaufmann, Kraay and Mastruzzi (2010) and Orubu (2013). They are of the view that corruption undermines the overall quality of governance within a country, and it leads to increased transaction costs due to delays in getting government services.

Variable	Coefficient	Standard Error	<i>t</i> -value	Prob> t
REM				
Constant	73.873	24.724	2.99	0.003*
RLI	0.197	0.210	0.94	0.348
CI	3.251	2.925	1.11	0.266
BQI	14.201	3.391	4.19	0.000*
PRI	-6.686	5.350	-1.25	0.211
GE	0.330	0.243	1.36	0.175
LAB	0.502	2.558	-0.20	0.844
LINFR	-0.890	1.214	-0.73	0.003*
PCSE				
Constant	50.798	17.916	2.84	0.005*
RLI	0.146	0.137	1.07	0.286
CI	6.413	1.893	3.39	0.001*
BQI	8.012	3.002	2.67	0.008*
PRI	4.032	3.487	1.16	0.248
GE	0.333	0.083	4.00	0.000*
LAB	-1.937	1.668	-1.16	0.246
INFR	-3.441	1.481	-2.32	0.020*
Diagnostic statistics:				
$R^2$	0.240			
Within	0.114			
Between	0.145			
Overall	0.133			
Wald $\chi_7^2$	23.84			
Prob $(\chi^2)$	0.001			
Multicollinearity	1.330			
Heteroskedasticity	7148.410			
Serial Correlation	252.750			

 Table 4.17

 Institutional Quality and Educational Attainment in Lower Middle-Income Countries

*F*-Statistics *F*(20,161)=12.17

#### Table 4.17 Continuation

Variable	Coefficient	Standard Error	<i>z</i> -value	Prob>  $z$
Constant	-3.592	10.503	-0.34	0.732
RLI	-0.020	0.019	-1.05	0.295
CI	0.827	0.386	2.15	0.032*
BQI	-1.153	0.240	-4.81	0.000*
PRI	2.886	1.012	2.85	0.004*
SE	-0.036	0.031	-1.17	0.242
LAB	0.649	0.083	-7.85	0.000*
INFR	0.120	0.257	0.77	0.439
Diagnostic Statistics:				
Wald $\chi_8^2$	= 64203.340			
Prob $(\chi^2)$	0.000			
Sargan test	$\chi^2_{34} = 12.289$			
Prob> $\chi^2_{=}$	0.993			
		Order	Z	P>Z
Arellano-Bond	S Oniv	ersiti Utar	0.369	0.712
		2.	1.347	0.178

GMM Results on Institutional Quality and Educational Attainment in Lower Middle-Income

Note: \* and \*\* indicates significance at 5 and 10 percent level of significance

With this kind of situation, the standard of living of the people is affected adversely which serves as a barrier to the realization of educational attainment and acquisition of knowledge in all standards in SSA countries. In another scenario, bureaucratic quality index is statistically significant at five percent and has positive sign. In other words, one percent increase in effective bureaucratic qualities is on average leads to 8.01 percent increase on the level of educational attainment. This finding in consonance with human development theory and also supported by previous studies by Mulligan (2012); Ekpo (2013) and Green and Moser (2013).

In another scenario, the issue of property rights in this circumstance, shows that it is statistically insignificant with negative coefficient. In other words, the acquisition of property right in the lower middle-income countries of SSA does not impact on the people positively. That is to say that as the level of the freedom of property rights increases, the standard of living of the people among the countries of this study falls. This situation contradicts human development theory. Ideally, the higher the level of property rights acquisition, the higher the level of educational attainment as is observed in the developed world. Furthermore, the control variables, *LAB* is statistically insignificant and in terms of their relationship with educational attainment while *INFR* is statistically significant at five percent and negatively related to educational attainment among the countries under assessment.

As far as this model is concerned, various diagnostic checks was performed and the results are shown in Table 4.17. These include the results of multicollinearity, heteroscedasticity and autocorrelation. However, the post estimation has shown that the model has the problem of heteroscedasticity and autocorrelation. This problem was resolved by estimating PCSE. As a result, the discussion was based on both REM and PCSE as explained above.

Furthermore, GMM is used to check the limitations and shortcomings of panel data estimation as proposed by Arrelano and Bond (1991), Arrelano and Bover (1995) and Blundell and Bond (1998). From Table 4.17, the coefficient of RLI is statistically insignificant and it exhibits negative sign. It means that rule of law does not contribute to the educational attainment in the region. However this situation negates human development theory. Therefore the implementation of rule of law policy is expected to influence the educational attainment of the people positively. In addition, corruption index shows a negative coefficient and is statistically significant at five percent level of significance. The implication of this is that a one percent increase in the control of corruption index in the selected countries on average leads to 0.83 percent decrease on educational attainment and acquisition of knowledge in all standards in lower middleincome SSA countries.

This finding is not in agreement with human theory and also supported by previous studies like Akcay (2006). He employed three different indices of corruption, using OLS for a cross-country analysis of 63 countries he found that corruption has a negative and statistically significant effect on human development as measured by educational attainment. In another scenario, bureaucratic quality index is statistically significant at five percent but has a negative coefficient. In other words, one percent increase in effective bureaucratic qualities in the society, on average leads to 1.15 percent decrease on the level of educational attainment in lower middle-income countries in SSA. This situation is also at variance with human development theory. Ideally, effective

bureaucratic qualities in the society are expected to make better educational policy which leads to eradication of illiteracy in the society.

Furthermore, the issue of property rights index in this circumstance shows that it is statistically significant at five percent and also with a positive sign. In other words, one percent increase in property right issues, on average leads to 2.89 percent increase on educational attainment within the lower middle-income SSA countries. That is to say that as the level of the freedom of property rights increases, the level of educational attainment also increases to meet up the level of development in the region. This situation is in agreement with human development theory and is supported by previous studies such as Knack and Keefer (1995). They build on data for up to 97 countries for the period 1974 to 1987, finds that the quality of institutions, operationalised as the security of property rights and the level of contract enforcement is crucial to growth and investment.

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For the control variables, *SE* and *INFR* are statistically insignificant, is only labour force that is statistically significant but with negative coefficient. In the post diagnostic test, the *EDU* model passed the Sargan test of over identifying restrictions. This was achieved after applying twostep computation. The  $\chi^2$  value of the Sargan test is 12.289, and the probability  $\chi^2$  is 0.993. This means that the *p*-value of the test is greater than 0.05, this shows that the instruments are valid. Also, the Arellano-Bond serial autocorrelation test was conducted and not significant. Here, first order and second order are 0.369 corresponds to 0.712 and 1.347 and 0.178, respectively. This shows that there is no autocorrelation in the model as shown in Table 4.17. The last but not the least is to investigate impact of institutional quality and life expectancy in lower middle-income countries in SSA.

### 4.5.8 Model 12: Institutional Quality and Life Expectancy in Lower Middle-Income Countries in SSA

The last but not the least, the estimation of the institutional quality and life expectancy model on lower middle income SSA countries. The study also employed the same indicators of institutional quality to assess its impact on life expectancy in these selected SSA countries. From Table 4.18, rule of law index is statistically significant at five percent level of significance with negative coefficient. In other words, one percent increase in the implementation of rule of law index in the society on average leads to 0.07 percent decrease on life expectancy in the region. The result of this research is inconsistent with economic theory of human development and is supported by previous studies (Fogel, 2006; Ahn & York, 2011). They posit that rule of law entails the extent to which both life and property is protected and the masses have legal right to seek justice whenever their rights is infringed upon. In this case, these countries need to strengthen institutional quality generally to bring about improvements in health facilities and training of health personnels to improve life expectancy in these countries.

In terms of corruption index, from the computation, it shows that *CI* is statistically and positively significant at 10 percent. As a result a one percent increase in the level of corruption index (reduction of corruption in the society) on average leads to 0.35 percent increase on life expectancy in the study area.
Table 4.18

Institutional	Quality	and .	Life	Expectancy	in	Lower	Middle	Income	Countries:	Fixed
Effect										

Ejjeci				
Variable	Coefficient	Standard Error	<i>t</i> -value	Prob >   t
Constant	51.767	1.761	29.40	0.000*
RLI	-0.069	0.015	4.72	0.000*
CI	0.351	0.264	1.33	0.085*
BQI	-0.547	0.295	-1.85	0.166
PRI	0.711	0.422	1.69	0.093*
HE	0.518	0.110	1.80	0.074*
LAB	-0.000	0.202	2.56	0.011*
INFR Di di di di di	1.230	0.097	12.72	0.000*
Diagnostic statistics: $\mathbf{D}^2$	0.601			
R <sup>-</sup> : Within	0.621			
Between	0.321			
Overall	2 27 700			
Wald	$\chi_7^2 = 37.700$			
Prob ( $\chi^2$ )	0.000			
Multicollinearity	1.380			
Heteroskedasticity	13745.950			
Serial Correlation	194.437			
<i>F</i> -statistics $F(20,$	161) = 396.840			
GMM result on Instit	tutional Quality and I	Life Expectancy in Low	ver Middle-Income S	SA countries
Variable	Coefficient	Standard Error	<i>z</i> -value	Prob >  z
Constant	5.967	0.822	7.26	0.000*
RLI	-0.076	0.000	141.51	0.000*
CI	-0.032	0.007	4.35	0.000*
BQI	-0.086	0.008	-10.69	0.000*
PRI	-0.007	0.014	-0.53	0.596
HE	-0.008	0.005	1.75	0.081**
LAB	-0.047	0.001	42.96	0.000*
INFR	0.082	0.017	4.87	0.000*
Diagnostic Statistics:				
Wald X	$\frac{2}{8} = 1.06e + 06$			
Prob $(\chi^2)$	0.000			
Sargan test $\chi^2$ (34)	) = 14.787			
Prob> $\chi^2_{=}$	0.972			
		Order	Z	P>Z
Arellano-Bond		1.	-0.751	0.453
		2.	1.026	0.305

Note: \* and \*\* indicates significance at 5 and 10 percent level of significance

This result is in agreement with human development theory. It is also in line with previous studies (Lambsdorff, 2008; Kuniedia, Okada & Shibata, 2011; and Popsilaghi & Mutu, 2013). They observed from their findings that pervasive corruption in an economy can reinforce existing economic and social inequalities as well as intensify the depth of poverty and reduce the access by the vulnerable segments of society to the basic needs of life.

However, *BQI* is statistically insignificant and it has a negative signs. For *PRI* result indicates that it is statistically significant at 10 percent and it has positive coefficient. The implication of this is that one percent increase on the regulation and implementation of *PRI* in the selected countries on average leads to 0.71 percent increase on life expectancy in the region. The enforcement of *PRI* through regulations encourages potential investors and individuals alike to source possible means to engage in investment which at the end leads to high level of life expectancy for the people since they can afford to provide for their basic needs. This finding is in tone with human development theory and is consistent with the outcome of previous studies like Dantama & Olarinde, (2013); Frankema, (2012) and Hariri, (2012). They opined that institutions protect individual freedom, which is fundamental human values of property rights protect owners from outside interference with the free use of their assets and create a domain in which property owners are at liberty to do anything with their properties.

Moreover, all the instrumental variables are statistically significant with positive relationship with life expectancy. In other words, they contribute to the enhancement of healthy living in the lower middle income SSA countries. It is important to note that the appropriate model was obtained through hausman test which is FEM as shown in Table 4.6, then various diagnostic checks was performed and the results are shown in Table 4.18 These include the results of multicollinearity, heteroskedasticity and autocorrelation. However, the post estimation has shown that the model has the no problem of heteroskedasticity and autocorrelation. As a result, the discussion was based on FEM.

In addition, GMM computation is carried out as a robust check on previous technique and the result is also shown on Table 4.18. The result of rule of law is statistically significant at five percent level of significant, but with negative coefficient. It means that one percent increase in effective rule of law index policies on average leads to 0.08 percent decrease on life expectancy in the region. The finding is not in consonance with human development theory. Ideally, effective implementation of rule of law is expected to improve life expectancy of the people. For example, previous studies such as (Prochniak, 2013; Green & Moser, 2013 and Neugarten, 2015), opined that effective rule of law promotes, sustain peace, safety and security which constitutes the basic elements in creating and nurturing human development.

Also, corruption index is statistically significant at one percent level of significance, but with negative coefficient. In other words, one percent increase on the reduction of corruption in the selected countries on average leads to 0.03 percent decrease on the level of life expectancy in the studied area. This finding is not in agreement with human development theory and at the same time supported by other researcher like Kuniedia, Okada and Shibata (2011); Popsilaghi and Mutu (2013) and Eyyup (2013). These authors observed that evidence on the negative impact of corruption, is enormous, it bring about reduction in economic efficiency and capital formation thereby stultifying growth in all area of human endeavor.

In another scenario, bureaucratic quality index is statistically significant at five percent but with negative sign. In other words, a one percent increases in effective bureaucratic qualities on average leads to 0.09 percent decrease on life expectancy in the lower middle-income SSA countries. That is to say, the higher the effectiveness of bureaucratic quality performs in the sub region, the lower the level of life expectancy in those selected SSA countries. This result is not in line with human development theory. In reality, the more effective the bureaucratic quality is implemented in the society, the increase the life expectancy of the people.

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Furthermore, the issue of property rights in this circumstance shows that it is statistically insignificant with a negative sign. In a similar vein, from the control variables, the three variables are statistically significant with expected coefficient. They are related to life expectancy at the same time contribute to increase of life expectancy in the entire region. In the life expectancy model, diagnostic check was also conducted and it passed the Sargan test of over identifying restrictions. This was achieved after the application of twostep xtabond computation. The  $\chi^2$  value of the Sargan test is 14.787, and the probability  $\chi^2$  is 0.972. This means that the *p*-value of the test is greater than 0.05, this shows that the instruments are valid. Also, the Arellano-Bond serial autocorrelation test

was also insignificant. Here, first order and second order are -0.751 corresponds to 0.453 and 1.026 and 0.305, respectively. This shows that there is no autocorrelation in the model as is shown in Table 4.18.



# 4.6 Summary of Statistical Result, Pattern and Interpretations

Research Models			Results		
		Sign			
			Sign	Conclusions	
1.	MODEL1: Institutional Quality and Human	+	-	Not Supported	
	Development in SSA countries				
2.	MODEL2: Institutional Quality and Standard of	+	-	Supported	
	Living (per capita income) in SSA countries				
3.	MODEL3: Institutional Quality and Educational	+	-	Not Supported	
	Attainment in SSA countries				
4.	MODEL4: Institutional Quality and Life	+	-	Not Supported	
	Expectancy in SSA countries				
5.	MODEL5: Institutional Quality and Human	+	-	Not Supported	
	Development in LYC of SSA countries				
6.	MODEL6: Institutional Quality and Standard of	+	-	Not Supported	
	Living in LYC of SSA countries				
7.	MODEL7:Institutional Quality and Educational	ara	M <sub>t</sub> ala	Supported	
	Attainment in LYC of SSA countries				
8.	MODEL8: Institutional Quality and Life	+	+	Supported	
	Expectancy in LYC of SSA countries				
9.	MODEL9: Institutional Quality and Human	+	-	Not Supported	
	Development in LMYC of SSA countries				
10	MODEL10: Institutional Quality and Standard of	+	+	Supported	
	Living in LMYC of SSA countries				
11	MODEL11: Institutional Quality and	+	-	Not Supported	
	Educational Attainment in LMYC of SSA				
	countries				
12	MODEL12: Institutional Quality and Life	+	+	Supported	
	Expectancy in LMYC of SSA countries			••	

The detailed discussion of the results is based on both static and dynamic panel data analysis. The human development analysis for the period of 2005-2013 in SSA countries offers strong evidence that different individual dimensions of institutional quality are a fundamental factor in explaining the developmental level of SSA countries. Since this study believe that the GMM model is stronger, it appears that for the period 2005-2013, all the dimensions of institutional quality indicators used in this study such as rule of law index, corruption index, bureaucratic quality index and property rights index exhibits mixed result. However, they are significantly related to *HDI* in general even when the components such as standard of living, educational attainment and life expectancy are included in the assessment.

As far as this study is concerned, it shows evidence (using WGI, Heritage foundation and different estimation techniques) that different dimensions of institutional quality have different effects on human development. It is the conviction of this study that these indicators are based on a distinct, well-defined analytical concept of institutional quality, defined Kaufmann, Kraay and Zoido (1999) as the traditions and institutions by which authority in a country is exercised. This includes the process by which governments are selected, monitored, and replaced; the capacity of the government to formulate and implement sound policies, and the respect for citizens and the state for the institutions that govern economic and social interaction among them.

Furthermore, some studies have measured development by simple indicators of economic growth. This study utilized an indicator, which includes some social, as well as economic

aspects of the development process, the UNDP *HDI*. Moreover, because the study realised the effects of institutional quality on social aspects differ, hence this study disaggregates *HDI* into its components parts; per capita income (*PCY*), educational attainments (*EDU*) and life expectancy (*LEX*). The empirical results indicate that different dimensions of institutional quality do have different effects on HDI and its components. The study investigated the effects of institutional quality on *HDI*, *PCY*, *EDU* and *LEX* in SSA countries by estimating multivariate econometric models based on cross section panel data set analysis over the period 2005-2013, including random effects, fixed effects and GMM techniques due to the dynamic structure of the regression equations and to deal with the endogeneity of some regressors, such as the institutional variable. This technique enables the study to get consistent estimates of human development and its components' models.

The study went further to group the countries into lower middle-income and low-income SSA countries and analysed based on the method of analysis chosen. Results are compared from the aggregated and disaggregated measures of the *HDI*, to show that there is strong evidence that each individual dimension of institutional quality have different impacts on the *HDI* and its components.

In the human development analysis using system GMM, the study finds strong evidence that the institutional quality indicator are an important factor in explaining the development level of SSA countries. It appears that for the period of 2005-2013, all individual different dimensions of institutional quality indicators shows mixed coefficient. Here, some like RLI and CI are negatively and significantly related to *HDI* BQI and PRI are positively and significantly related to HDI. When the study was disaggregated that is *HDI* into its component (namely standard of living, educational attainment and life expectancy), the outcome also give similar results The study confirmed that effective institutional quality indicators are required in order to improve human development, particularly in social sectors such as education and healthcare.

It is important to note that this study used institutional quality on life expectancy in SSA countries. Based on the findings of the empirical analysis, some important facts can be suggested. The estimated coefficient for life expectancy is found positive and statistically significant with the independent variables that are institutional quality variables selected. Thus this study provides some important evidence that institutional quality is a fundamental determinant of life expectancy in the SSA countries whether low or middle-income countries. It is important to note that health leads to income growth through its effect on human capital accumulation provided that people have sufficient food and satisfactory educational opportunities which can be realizable through transparent and efficient institutional qualities practice.

On the other hand, policy makers in low-income and lower middle-income countries might want to consider other types of growth promoting policies that do not necessarily overemphasize improving the efficiency of their existing institutions. However, this finding does not mean that institutions are not important at the early stage of economic development. Low-income countries should modernize and reform their institutions progressively so as to achieve formidable human development in the long-run as the estimation suggest.

Human development requires more government intervention and a greater government presence, particularly in social sectors such as education and health (Deaton, 2006; Kagunda, 2006). For instance, Deaton (2006) observes that some countries have improved the expected level of health without having high GDP per capita such countries are; Rwanda, Seychelles and South Africa while others with high GDP per capita are not able to improve consistently the health level of their citizens such countries are; Nigeria, Gabon and Sudan. Furthermore, the magnitude of the coefficient on institutional quality indicators helps us in identifying the dimension of institutional quality that influences human development in SSA countries. Among the WGI, rule of law, corruption index, bureaucratic quality effectiveness and property rights have the biggest effects on *HDI*, *PCY*, *EDU* and *LEX*, respectively.

### 4.7 Differences between Panel data and GMM

As a benchmark case this study carry out panel estimations on both FEM and REM where unobservable country fixed effects and time fixed effects are included. However, a particular issue of concern in estimating the models on FEM or REM is endogeneity bias which may arise from omitted variables, simultaneity or reverse causality in the relationship between institutional quality and human development inclusive of its components. To overcome this, this study used the GMM estimators proposed by Holtz-Eakin *et al.* (1988) and Arellano and Bond (1991) and further developed by Arellano and

Bover (1995) and Blundell and Bond (1998). In particular, this study used the system GMM dynamic panel

The GMM results are very much similar to panel data results. In both the panel data and GMM results, the *RLI*, maintained its negative influence on *HDI*. In addition, the negative influence of the coefficient of *RLI* is statistically significant at five percent level of significance in GMM results. The coefficient of *BQI*, has improved to positive in system GMM results but the *p*-value remained significant in both the two system of analysis. Similarly *CI* maintained its negative coefficient in both panel data results and GMM results and the *p*-value of *CI* variable did not improve at any level of significance in GMM results.

The GMM results of this research are quite similar with panel data results with minor but noticed differences. For instance, BQI and PRI maintained positive and statistically significant coefficients in both panel data results and GMM results. Similarly, HE have also maintained positive coefficient in both the two models with a significant *p*-value in system GMM. The coefficient *RLI* and coefficient *CI* experienced minor changes. The two variables have negative coefficients and none statistically significant *p* values in panel data results but the positive coefficient changed to negative while maintaining the none statistically significant *p*-value in GMM results.

Also, the GMM results of this research are similar to the panel data results but the system GMM results are more robust. The *RLI* and *PRI* in both system GMM and panel data models have negative coefficient and the *p*-value of RLI is statistically significant at one

percent level of significance in system GMM model. Also the amount of influence to *PCY* by these two variables is more in system GMM, for instance the coefficient value of *RLI* in system GMM is 3.50 percent while it is 20.45 percent in panel data output. Similarly, *CI* has 31.93 in system GMM and 18.43 in panel data. Likewise, in both panel data and GMM, *CI*, and *PRI* maintained positive influence on *PCY* and non-statistical *p*-value, although it is noticed that *CI* has a *p*-value of 0.41 in panel data regression results, while to system GMM of 0.000. This means that it is not significant under static panel and dynamic estimation which, it is insignificant in GMM at five percent.

The observed differences in the results of GMM and panel data methods of analysis may not be unconnected to the fact that GMM is developed to check the limitations of the panel data method of analysis. Although the advantages of panel data is not in doubt as lamented by Baltagi (2008) that panel data give a researcher a large number of points, increasing the degree of freedom and reducing the collinearity among explanatory variables, this leads to improving the efficiency of econometric estimates. Also the technique of panel data estimation takes heterogeneity into account by following subjectspecific variables. It also allows a researcher to analyze a number of economic questions that cannot be addressed using other methods. Panel data is suited to study the dynamics of change in countries and firms. The advantages of panel data are more glaring when intra-individual dynamics and inter individual differences of cross-sectional or timeseries data are blended together. In another instance, Roodman (2009b), Heckman *et al.* (1998) and Hsiao *et al.* (2006) clearly demonstrated panel's data greater capacity in capturing complication of human behavior when evaluating the effectiveness of social programs. Hsiao (2007) believed Panel data equally generates more accurate predictions for individual outcomes through pooling the data rather than generating predictions of individual outcomes using the data on the individual in question.

However, GMM is used to check the limitations and shortcomings of panel data estimation as proposed by Arrelano and Bond (1991), Arrelano and Bover (1995) and Blundell and Bond (1998). According to Bond (2002) and Roodman (2009a), GMM estimator is more efficient than panel data and GMM does not require complete form underlying model for the estimation. According to Wooldrigde (2001), GMM works by adding moment's conditions under the assumption that past values of explanatory variables or past values of dependent variable are uncorrelated with the error term.

#### 4.8 Conclusion

In this chapter, the explanatory statistics and spearman correlation analysis were presented. The empirical results of institutional quality and human development were analysed. This includes the results of the panel data analysis for all the models, both FEM and REM are discussed together with diagnostic checking of the appropriate model. Finally, the empirical results of the GMM models were presented inclusive of its diagnostic checks and analysed.

# CHAPTER FIVE SUMMARY OF FINDINGS, POLICY IMPLICATIONS AND RECOMMENDATIONS

#### 5.1 Introduction

The chapter comprises of summary of findings, contributions of the research and limitations of the study, suggestions for policy recommendation and directions for further research.

### 5.2 Summary of Findings

Finally, the study uses system GMM due to the dynamic structure of the regression equations to deal with the endogeneity of some regressors, such as institutional quality variables. This technique enables the study to get consistent estimates of human development models. In the human development analysis (using system GMM), the study finds strong evidence that the individual dimensions of institutional quality indicators are important factor in explaining the development levels of SSA countries. It appears that for the period of 2005-2013, all individual different dimensions of institutional quality are positively and significantly related to HDI. When aggregated and disaggregated, the study finds sufficient evidence to indicate that institutional quality indicators to have effects on specified social indicators which is the HDI components. The study believes that strong institutional quality is required in order to improve human development particularly in social sectors such as education and health. The magnitude of the coefficients of institutional quality which influences SSA human development the most from the WGI, rule of law, corruption, bureaucratic quality andproperty rights have biggest effects on HDI, PCY, EDU and LEX, respectively. The study believes that attaining strong institutional quality in every aspect is practically impossible for SSA countries. Therefore, governments can concentrate their efforts on some aspects of institutional quality such as improvement on control of corruption, effective implementation of rule of law which are found to be the most important for human development in SSA countries.

### 5.3 Contributions of the Research and Limitations of the Study

There are seven fundamental contributions of this study; firstly this study uses HDI inclusive of the three components as a measure of development. While some studies uses economic growth and human development in their analysis separately. This study examines the impact of institutional quality on *HDI*, *PCY*, *EDU* and *LEX*, respectively. Therefore, by examining the impact of institutional quality on a measure that incorporates human development itself, standard of living, educational attainment and life expectancy. This study is better able to determine if institutional quality is adequate as development tool.

Second, the study has used different dimensions of institutional quality which allows the researcher to analyze the effects of different indicators on human development. Studies that aggregate institutional quality or use only one aspect of it (such as corruption index) inadequately represent its impact on development efforts. Third, the disaggregation of *HDI* into *PCY*, *EDU* and *LEX* components reveals that institutional quality has different

relationships with social aspects of a society. Fourth, the study makes uses of recent data in examining the effects of institutional quality on human development in SSA countries as well as regional effects. Fifth, the division of SSA countries into middle-income and low-income countries also explains further the impact of the institutional quality on the human development in terms of its impact on their level of development.

Sixth, the inclusion of institutional quality on human development and its components may not be noticeable in cross-sectional analysis, or may even be misconstrued because of economic shocks or political unrest. Moreover, using a panel data set allows the researcher to identify and estimate effects that are simply not detectable in either pure cross-sectional or pure time-series data. Finally, in order to address the methodological limitations of the previous studies, this study uses the system GMM estimation technique to estimate the human development and its components' models. This technique enabled this study to handle the potential endogeneity problems and to obtain consistent estimates. This study contributes by using these techniques of analysis and establishes their reliability and validity in the context of SSA countries.

However, the results of the study must be interpreted with caution, since the sample covers period of a mere nine years, a choice dictated by the availability of consistent data (such as WGI which are only available for 1996, 1998, 2000, and annually for 2005 to 2013). This may be inadequate for analyzing the effects of changes in institutional quality on human development, since the institutions included in the study typically take more than nine years to undergo significant change. In addition, the sample of countries is also

small, limited to countries of SSA. However, the results might be indicative of empirical regularities that the study might expect to find in a larger sample of countries observed over a longer period of time, an exercise that would be worth undertaking when more extensive data becomes available.

In another scenario, the other drawback of the study is the WGI are perception-based measures. For instance, respondents to surveys may be expressing satisfaction with economic performance in particular year, rather than the true level of institutional quality parse.

## 5.4 Suggestions for Policy Recommendation

In this study, it presents clear evidence to suggest that the relationship between institutional quality and development generally is complex. This becomes more evident when the study compares the results from the examination of the impact of institutional quality on human development and its components. There are meaningful differences, suggesting that analyses that use GDP per capita growth as the only indicator of development are missing important elements of the development process. This is not to say that improvements in income levels are not important. However, they are means to development not ends in its self. The primary recommendation of this research would be to focus more on understanding the gestalt of all aspects of the development process rather than addressing only one or two specific issues and this includes human development and its components. Second, good institutional quality, effective and transparent government is keys to good policy implementation and favourable outcomes. Therefore the study recommends that policy-makers focus on the capability and capacity of government institutions in carrying out effective human development related projects which involves comprehensive monitoring, implementation and evaluations. One way to raise income levels in SSA countries is through increased investment in education. Recently, the World Bank (2014) pointed out that higher education is very crucial in promoting economic growth and development, particularly for Africa's fast-growing youth population. To this end, the World Bank has been mobilizing resources to raise investment in higher education in the region. That is to say, countries involved should key in to this opportunity.

Since human development is strictly correlated with institutions, hence appropriate institutional policies are crucial to a development process. Then, institutional policies resulting from those prevalent norms and institutions would allow for the improvement of the three essential capabilities for human development. Therefore, for a higher level of human development in SSA countries, policymakers need to implement as a matter of urgency institutional policies that increases human development and economic growth in the region. In other words, the choice in economic policy is a choice of institutions. And what matters are the effects that a modification in these institutions actually makes in the real world.

Among the WGI, rule of law, corruption index, bureaucratic quality index and property rights have effects on HDI, *PCY*, *EDU* and *LEX* respectively. The study is of the view

that attaining good institutional quality in every aspect of the economy is practically impossible for SSA countries. Therefore government can concentrate their efforts on some institutional quality such as improvement of rule of law, corruption, property right, and effective bureaucratic quality which are found to be the most important for human development in SSA countries.

In another scenario, human capital development implies the acquisition of knowledge and intellectual stock through the means of education for expansion of productivity, efficiency, performance and output. Out of the various factors that contribute to economic activities, human beings have been identified as the most important and relevant out of these factors (Noorbakh, Paloni and Youssef, 2001). The categorization of nations into developed and developing nations is based on the human development rates of the people of the nations. As a result, countries try all they have at their disposal to develop their population by the use of education interventions to ensure development. Organizations in adjustment to changes in the business environment have to pay better attention on the development of their employees to be able to cope economically with the challenges of the business environment. In line with this, Woodhall (1997) observed that human capital development theory is based on the belief that expenditure and investment is of high benefit and influential in increasing productivity in the general population. As a matter of fact, it has been sufficiently theorized that a country with highly educated population tends to be a very productive population.

In another scenario, the components of human development indexes which include good level of literacy, innumeracy, health and income are correlates of human development in all countries of the world. Therefore human capital development should be pursued at every level of human society, individual level, community level, organizational level, national level, regional level and global level. This can only be possible when there is check and balances in institutional quality indicators in the society. This corroborates the statement that the more educated the citizens the more knowledgeable they are in the issue of institutional quality and its enforcement in the society.

Mushkin (1962) who first emphasized the importance of health pointed out that health constitutes an important form of investment unlike other forms of human capital formation like education. Nelson and Phelps (1966) argued that a higher stock of health could stimulate growth by facilitating technological innovation. Health outcomes include life expectancy, the ability to work hard and cognitive functioning for the purpose, in explaining income differences among countries, life expectancy can be one of the key health outcomes. However, this can only be achieved iff institutional quality indicators are implemented, monitored and evaluated adequately and at interval for efficiency.

A combination of economic and social policies to crack down on corruption can in turn, effectively improve the institutions and boost human development in the region. Even through institutional reform can be an arduous process and require long-term commitment and its benefits can be tremendous. In addition, the study recommends policies to strengthen the institutional quality variables in the region such as to fight corruption to a standstill in all levels of economic activities through enforcement of rule of law. Moreover, rule of law needs to be strengthened for effective regulations and implementation that brings about transparent bureaucratic quality and effective property rights regulations.

In addition, from the analysis of the low-income and lower middle-income countries, the findings suggest that strengthening institutional quality is crucial in both low and lower middle income countries in SSA in order to promote human development. However, it may be necessary to recommend policies for different income groups rather than formulating a policy that applies to all countries. Thus, policies aimed at human development should take into account different stages of development for different countries.

However, policy-makers should also consider regional difference when implementing projects abroad, since what was successful in ECOWAS may not work in the SADC or EAC or CEMAC. This is especially crucial to international policy-makers. Regional differences also need to be built in for any plans such as history, religion, legal system, climate, election regulation, and state capacity.

Nevertheless, African underdevelopment is not mere institutional shortcomings and focusing all attention on building institutions at the expense of more direct interventions which address disease, geographical isolation, poor infrastructure, poor human capital which in turn affects technological productivity and resource gap that trap these countries

in poverty. Whilst good institutions would certainly make these interventions more successful, there is need to realize that they are a means to an end rather than an end in itself. Finally, national statistical agencies need to prioritize data collection and obtain consistent methodologies in order to improve data quality for the region. Lack of consistent data over time limits most analyses to short-run studies, which are often misleading.

### 5.5 Directions for Further Research

This research attempted to answer one fundamental question what are the impacts of institutional quality on human development in SSA countries? Based on the findings revealed by this study, the answer appears to be answered with regard to human development. However, it is clear that different dimensions of institutional quality have different impacts on the process of development. For the fact that, the importance of contextual economic, political, social, and institutional factors, there is a need to appreciate that the complexities of the development process do not allow for a clear and simple answer to that question. Although the findings of this thesis suggest that institutional quality does matter in SSA countries human development generally. It is important to note that this result is based on WGI, Transparency international, Moi Ibrahim foundation and Heritage international. A question for further research is whether other indicators of institutional quality produce similar results. Furthermore, other studies is necessary in order to explore theoretically and empirically the relation between human development and institutional quality because each country may have specific institutions that can affect specific development path and growth. This is country specific issue which needs to be investigated.

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