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The Analysis of the Ghana Telecom Industry

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Abstract

Drawing on institutional theory, this paper is aimed at providing further understanding and explanation to the Ghanaian telecom industry today. In particular the research sought to determine: how the industry was governed from the pre-reformation to the reformation period; the process of transitional reform and how it has molded the industry, especially on market competition; major policy initiatives and periods undertaken, since the beginning of the transitional process; how institutions have affected the reform of telecommunication in Ghana and to what extent various actors has impacted the industry.

The study identified two major periods and their various level of governance, from the Nationalization period or era where management of the sector started from traditional leaders, later to municipalities/ districts and finally to the works and housing department; at the denationalization period or era management was solely in the hands of an independent and a national regulatory authority.

It was also revealed three main policy direction across the period of reform: market liberalization (1997-2007) where Westel limited was introduced into the fixed line market, spacefon, celltell and mobitel all introduced into the cellular telephony market. At the beginning of 2008 policy was directed towards infrastructure expansion, as a result infrastructure licensing was introduced opening the door for international tower companies. Recently, from the beginning of 2011 up to date, policy is directed to consumer protection and projects such as Mobile Number Portability and SIM Card Identification has been rolled out. The use of the institutional theory provided further understanding of the sector reforms. In summation, the research also provided a full picture of how the Ghanaian telecom industry looks today.

Keywords: *Institutional theory; reforms, transitional reform, Nationalization, denationalization*

Introduction

Ghana became one of the first African countries that moved from having a government-controlled Telecommunication market to a much liberalized or a competitive market, with well-organized private sector participation. Even as the industry moves closer to a fully private, competitive model, the Government has continued to play an active role in promoting the effective development of the Telecommunication sector.

Telecommunication reform, regulation and policies of various countries have been a subject of intense debate over the last decade or two, (Tobin, (2010). The telecommunication industry is among the most dynamic industries in the world and such industries are characterized with high speed of innovation. Reforms have naturally become part of it growing process. The global pursuant of telecom liberalization and regulatory reform which started in the 1990s was non comparable to any technological led reform since the beginning of the century and the Ghanaian Telecom industry which is often left in literature was in the forefront among countries in Africa.

The process of reform unlike the one in telecommunication industry, particularly Ghana, started with corporatization through privatization to total liberalization involving competition. Several researchers have documented many factors that contributed to telecom reforms in many countries. Cowhey (1990, 1999) and Pisciotta (1999) argued for “revolution in telecommunication technology” as the motivation factor for the reforms. In the particular case of Ghana, Frempong and Atubra, 2001; Haggarty et al, 2002; Ahator, 2004; Frempong and Henten, 2005), in their various works on the Ghanaian telecom industry, described some institutional factors that contributed to the reforms by the government, and a more predominant factor between them was the performance of the incumbent operator. A recent study by Tobin (2010) identified influence of the World Bank and other international communities; influence of the colonial master, particularly the UK; lastly, itinerant expert who shares a certain view of the world; public outcry; and agitation or pressure of employees of the GP &T for reforms.

Drawing on institutional theory, this study seeks to provide a different dimension on giving an account for the Ghanaian telecom industry.

The structure of the paper is as follows: the next section will describe the conceptual framework, introducing institutional theory, its approaches and backed by the four-layer model, followed by the Ghanaian telecommunication overview, with specific emphasis on the transitional reform process, governance and management of the industry from the beginning of the sector or before the reforms (Nationalization era) and the after or beginning of the reform process(Denationalization era), the impact of the transitional reforms especially of policy directions across periods to today and then the Discussions and finally a conclusion and policy recommendations.

The Conceptual Framework

The application of institutional theory in research as a tool for explaining political and social phenomenon is now indispensable. From its application to the development of government policies, as shown by (Strang, 1990; Zhou, 1993) and assessment of personnel policies by (Tolbert and Zucker, 1983; Baron et al, 1986) to the understanding of economic policies (Thatcher, 1999; Schneider and Tenbucken, 2003). To be more precise in the application of institutional theory in the telecommunication industry, Braathen (2004) in studying telecommunication reform and policy development in Mozambique and Zimbabwe applied an institutional approach, Braathen used institutional factors to explain the reason why Mozambique's reform agenda is ahead of that of Zimbabwe. By using institutional analysis, the researcher is able to predict accurately how formal and informal arrangements can shape political interactions and influence the outcome of government actions on a particular sector (Leparrouza, 2008).

Scott, (2004) defined an institution as being made up of people and organizations that interplay to affect the powers of groups, shape ideas, and influence public decisions and policy coordination. In a more simple terms, Scott meant to say that an “institution” can be described as a product of social interactions among people. North (1990) added his voice to what an “institution” is all about by saying that “institutions reduces uncertainty by providing a structure to everyday life”. This is to say that an “institution” is the embodiment of rules and norms that govern its actors who in turn influence how the institutional framework evolves. Such structure created by an “institution” provides certain path or reference within which institutional actors can determine the outcome of their actions (North, 1986). Institutions are in many ways made up of “normative, cultural-cognitive and regulative elements that, together with associated activities and resources, provide stability and meaning to social life” according to Scott (2001)

The concept of normative approach to institutionalization argues that an understanding into the actions of the actors of an institution can be attained by assessing the “logic of appropriateness” that they acquire from the institution, this emphasis the rules that prescribe rights and privileges as well as responsibilities and duties. This is sometimes referred to as the sociological institutionalism by Powell and DiMaggio (1999) or socialist institutionalism (Hall and Taylor, 1996).

Regulative institutionalism focuses on the ability of institutions to constrain and regularize behavior, according to Scott (2004). (Peters, 2000) also showed that regulative institutionalism emphasizes that actors of an institution have their own preferences outside the institution that they are part of, and that their behavior is focused on maximizing their utility, however, they realize the need for the institution in order to achieve their goals.

The historical institutionalism is based on the “path dependence” effect of institutions concept. This approach implies that decisions, structures and policies that are established at the inception of an institution will have a persistent influence over its behavior throughout its existence (Skocpol, 1979). Historical institutionalism holds that institutions are not typically created for functional reasons and calls for historical research to trace the processes behind the creation and persistence of institutions and policies, (Lieberman (2001)). Lieberman further argued that a central goal of the more historical, institutional analysis is to estimate the impact of variations in institutional forms and configurations on a particular outcome or set of outcomes. This to say that, It is historical because analysts argue that once constructed at a moment in history, institutions typically endure for significant periods of time, influencing political dynamics and associated outcomes in subsequent periods. One is better placed to understand why a national institution moves from its institutional form, there is a need to examine the initial foundation of its policy-making process.

Modern day institutionalism has added new dimension to the institutional theory, thus – cultural cognitive approach. The approach posits that the actions of individuals are not based on rules or obligations (as in normative approach) instead they are based on conceptions. Research done by DiMaggio’s on culture and cognition is seen has one of the modern or new institutionalism that introduces cultural cognitive approach.

Though there are more approaches and variations into the concepts of institutionalism or institutional theory, the researcher believes that, these concepts and it interactions with the subject matter can better provide clearer understanding. Although, from the surface these approaches

seem to be totally distinct, there is some unification that can be drawn from them and applied to the subject at hand. Firstly, the normative, rational choice and history have structure as a common denominator

Conceptualizing Institutional evolution

On the theoretical and methodological level, there is no clear consensus among modern researchers as to what would constitute an adequate or acceptable explanation of the process of emergence of an institution. From the early works of Carl Menger (1981) on the analysis of how institutions evolve, to Geoffrey Hodgson and Thorbjørn Knudsen (2001); Ramon Marimon et al. (1990). Oliver Williamson (2000: 595) an internationally highly rated contributor of 'new' institutional economics himself admits that 'we are still very ignorant about institutions.' On this tentative assumption, it is suggested that the real world institutional emergence may be aided by the development of concordant habits, particularly as a result of emerging channels and constraints

Institutional evolution can be better understood by examining the organization's process of institutionalization. Institutionalization is the process that the organizations obtain value and structures. An organization evolving or change (thus, developing of values and structures) is through its confrontation with its immediate environment or society. This argument is supported by Peters, (2000) admission that "an institution is a variable not a constant and that different organizations are at different levels of institutionalism. Right from books of nature and creation, evolution or change has always been a constant phenomenon. To effectively make sense in explaining or assessing the level of institutionalization of an organization, then we must set a criteria for an institution in its assumptive variable character.

Several criteria exist for assessing levels of institutionalism of an organization, however, the basic similarity in all institutional criterion claims is that something identified at a higher level is used to explain processes and outcomes at a lower level of analysis (Clemens and Cook 1999; Amenta 2005). Koppenjan and Groenewegen (2005)'s four-layer model for institutional analysis also present form of assessing how institutionalized a particular organization is. Huntington (1965) also showed that the level of institutionalization of any organization can be measured by autonomous, adaptability, complexity and coherence.

The two models share similarities, below is a brief explanation of each:

Adaptability is a function of an institution's environmental challenges and age. Such challenges include the culture, norms and values of its new immediate environment which as described in layer 4 of Koppenjan and Groenewegen (2005)'s four-layer. An organization can only survive if only it can adapt to the changing environmental challenges. In the aspect of age, an older institution in a static environment can be less adaptable than a dynamic young institution. In general, the younger an organization, the more rigid it is. Environmental changes are constant and is a matter of age, before an organization can adapt well to such trends of environment as was suggested by Huntington suggests that adaptability can be measured by the age of the

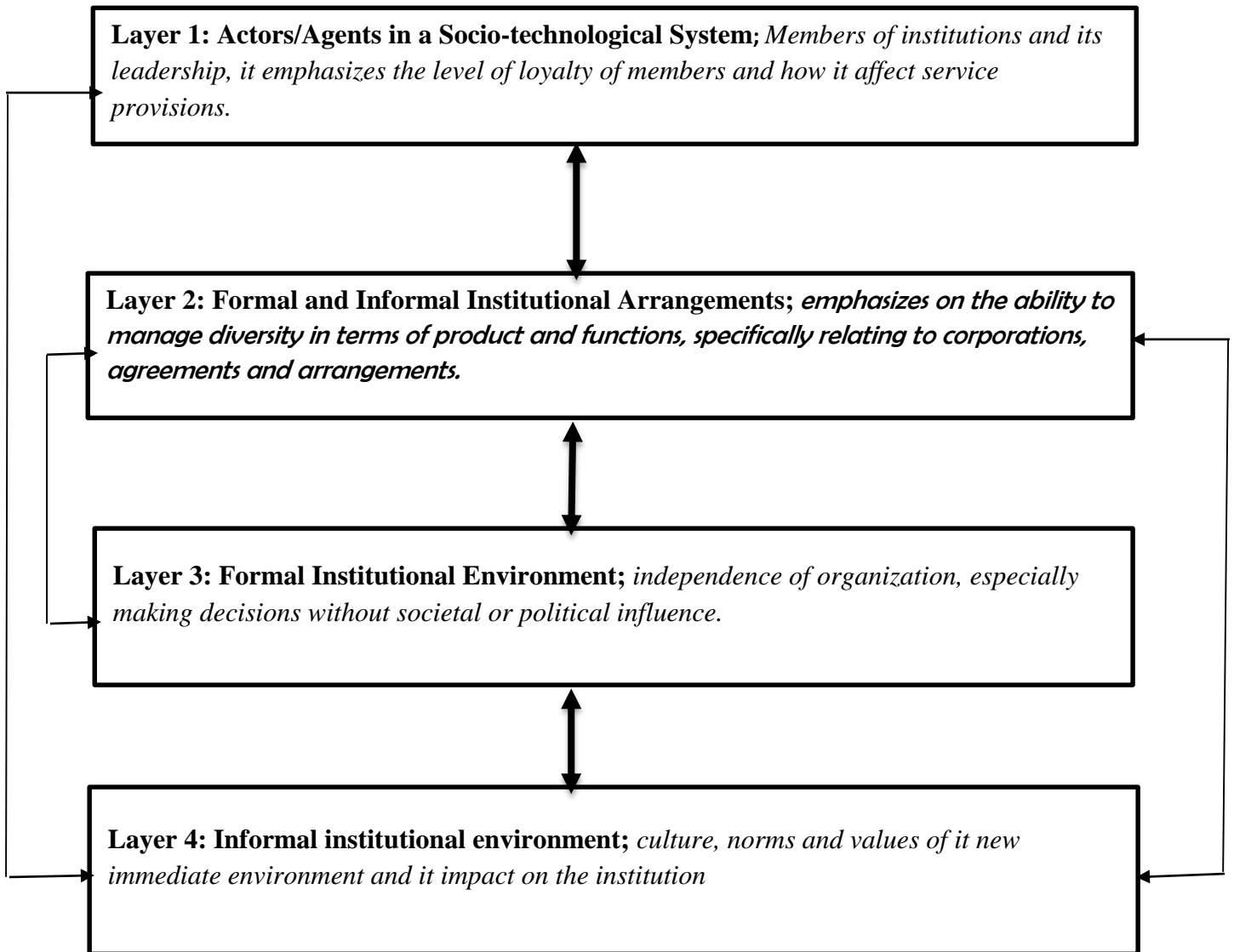
organization. An organization is said to be more institutionalized if it has adopted one or more functions other than its primary function.

Autonomy represents the independence of the organization. How the organization is able to make its own decision outside its societal or political influence. This is much related to the layer 3 of Koppenjan and Groenewegen, which takes a look at rules, laws and regulations that provides such autonomy of an organization. A more institutionalized organization is determined by how independent it is in decision making which is achieved through the laws and rules that governs the organization and protect in any society.

Complexity demonstrates the capability of the organization to manage diversity in terms of products and functions. This is expressed through corporations, agreements and arrangements as expressed in layer 2 of Koppenjan and Groenewegen (2005) 's four-layer. The world has become a global village now and such complexities are expected. A well-diversified organization is more robust and likely to survive modernization than a simpler monotonous organization. Huntington, the more coherent an organization is, the more institutionalized.

Coherence can be measured by the cleavages between members of the institution and its leadership. In layer 1 of Koppenjan and Groenewegen (2005) 's four-layer, coherence is expressed in terms of the interaction between actors and agents aimed at influencing provision of services. Huntington coherence emphasizes on the level of loyalty of the members of the institute.

Figure 1: Koppenjan and Groenewegen's four-layer diagram of Institutionalization



Source: Mirrored from Koppenjan and Groenewegen, (2005)

The four-layer model based on Koppenjan and Groenewegen (2005) will provide a layered approach to analyzing institutions. Though it was argued that the world was moving towards a regulatory convergence through privatization and similar telecom regulatory policies, the ways and means of achieving their goal varied according to the structures and institutions of individual countries (Hong, 1998) and this paper presents the Ghanaian case; the impact of institutionalization under the various layers listed in figure 1.

Institutions Pertaining to Telecommunications

Many research provides theoretical and empirical reasons to believe that the performance of the telecommunications industry is highly influenced by its organization and governance. At center stage is the issue of ownership and control of the service provider.

The great ideological revolution of the last few decades has, of course, been the recognition that the state should cede much of this ground—and not just the old “commanding heights”—to the private sector. But even while ceding the function of providing these economic goods and services, the state still has an important regulatory function.

Since the invention of radio transmission till when telephones were introduced to the public in the late 19th Century, the innovators were private firms. Reflecting the fact that the first telephone companies were affiliate of the Bell System. By the last decade of the 19th Century, private telephone service also was offered in large cities in developing nations, although mostly for the purpose of providing service to foreigners, especially in Ghana where such services were used by the colonial masters.

When telephones began to be used extensively by national governments and domestic businesses and residents, political pressures developed to prevent foreign ownership and control, most nations began to see the sector a national pride. In some case, governments nationalized the industry, but in many cases, they simply insisted that the firms be sold to domestic companies. As the 20th Century proceeded, most Europeans in the 1950s nationalized these companies in and then developing nations in the 1960s. Virtually all telephone companies were nationalized throughout the world in the 1970s, with Canada and the United States still remain private. Maybe the nationalization in the United State would have been more difficult because of its position is history as a place where the telephone invention started and more because the innovators were private firms unlike other countries where introduction of such services was started by the government.

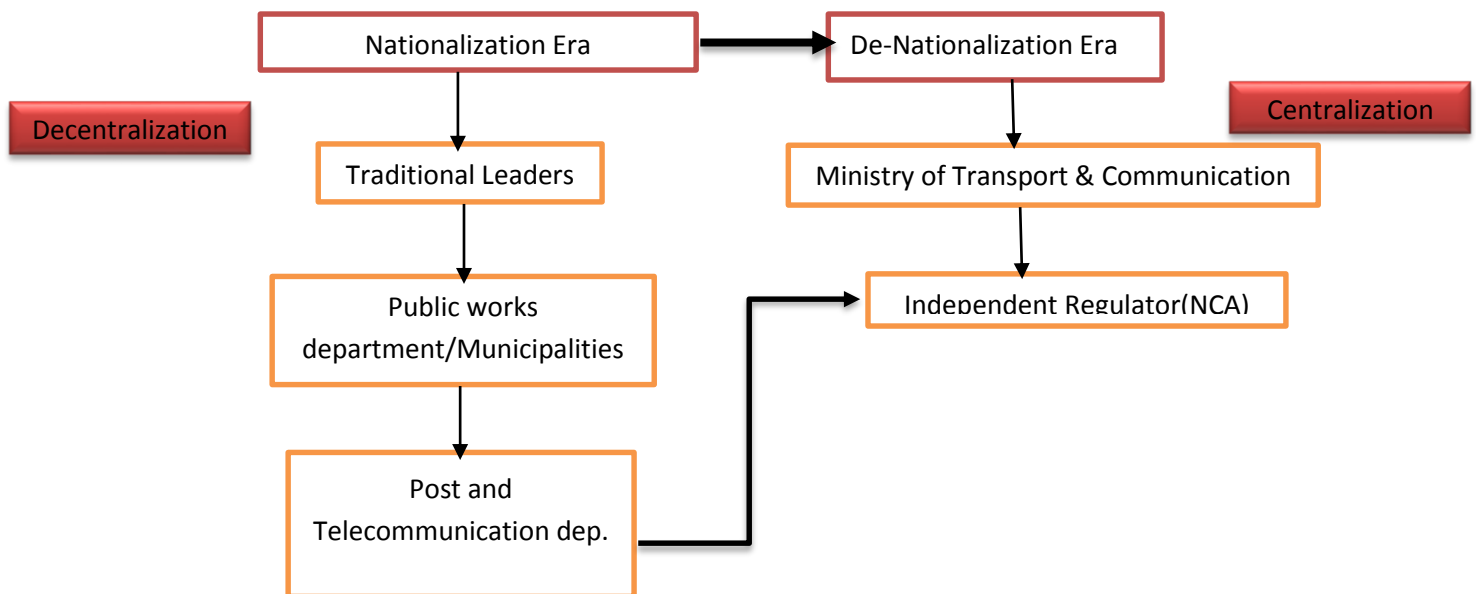
Most economists, as a theoretical matter, believe that private firms are more efficient than public ones. Theory predicts that private firms minimize costs, while public firms, to the extent even operations are politicized, and several cases willing to serve political objectives than making input for optimal organization.

Research Objectives

This study seeks to provide a further understanding and explanation to the Ghanaian telecom industry today, looking at the broader picture of the industry under two major periods (from the Nationalization period to the denationalization period) and a more specific periodization based on policy directions. In particular the research sought to determine (1) the industry governance from the pre-reformation to the reformation period; (2) the process of transitional reform and how it has molded the current players and the market competition of the industry today ;(3) major policy initiatives and periods of undertaken since the beginning of the transitional process ; Finally (4), the research will determine how institutionalism have affected the reform of

telecommunication in Ghana and to what extent various actors has impacted the industry today using the Koppenjan and Groenewegen (2005)'s (comprising both external and internal) 4 layer model of institutionalism.

Overview of the Industry Governance: from the pre-reformation to reformation period



Source: Researcher's (2015)

Figure 2: Ghana's Telecom Industry Governance

Nationalization Era (mid-1800's to mid-1900) - Decentralization of governance

Nationalization is a process of taking a private industry or private assets into public ownership of a national government or state. Nationalization may not always refer to private assets, however, assets owned by lower levels of government such as municipalities, being transferred to the state, particularly in Africa, specifically Ghana, lower levels of government include traditional areas, district authorities and the regional authorities.

Ghana's telegraph lines were often cut down by superstitious locals, especially among the Ashanti communities, who were convinced that the cables were "magic" lines being used by the Europeans to win wars. Ghana's colonial governor entrusted the safety and security of the lines to the tribal chiefs in 1886. Following the attainment of independence by Ghana in 1957 new telephone exchanges were installed at every regional capital in Ghana, such as, Accra, Koforidua,

Ho, Tamale, Sunyani, and Kumasi. These exchanges were managed and controlled by various public work departments within the municipalities.

De-nationalization era (late-1900- to present day) - Centralization of governance

In the 1970's telecommunications was administered by the government's Post and Telecommunications Department, a department which was later declared a public corporation by National Redemption Council Decree No. 311 in 1974. The department was placed under the authority of the Ministry of Transport and Communication, responsible for policy formulation and the control of Ghana's telecommunications sector. This started the transitional reform process

Transitional Reform Process

The Ministry of Transport and Communications put together a document to initiate the reform process of the Telecommunication sector called the Accelerated Development Program (ADP) and was subsequently launched in 1994, Ministry of Transport and Communications, (1999).

The program was developed after an extensive consultation with telecom service providers, International Telecommunication Union (ITU), financiers, donors and users Haggarty et al. (2002).

Ahator (2004) showed that, the Ghanaian reform process actually started with the launch of the Accelerated Development Program (ADP)

The ADP suggested the following aims and measures; a tariff policy was suggested to allow operators to recover the full cost of service provision; it was also established in the ADP that customers should be able to access services at competitive and affordable prices, this was in the direction of fostering public accessibility in urban and rural areas through the implementation of payable facilities; universal public access was also planned for the longer term through the installation of payable facilities to every village of a minimum of 250 inhabitants; expanding the coverage of mobile services; liberalization of value added services; promoting Ghanaian ownership and control of telecommunications companies; and Retaining an overall public regulatory control of the sector through the creation of a single and an independent agency: the National Communications Authority (NCA).

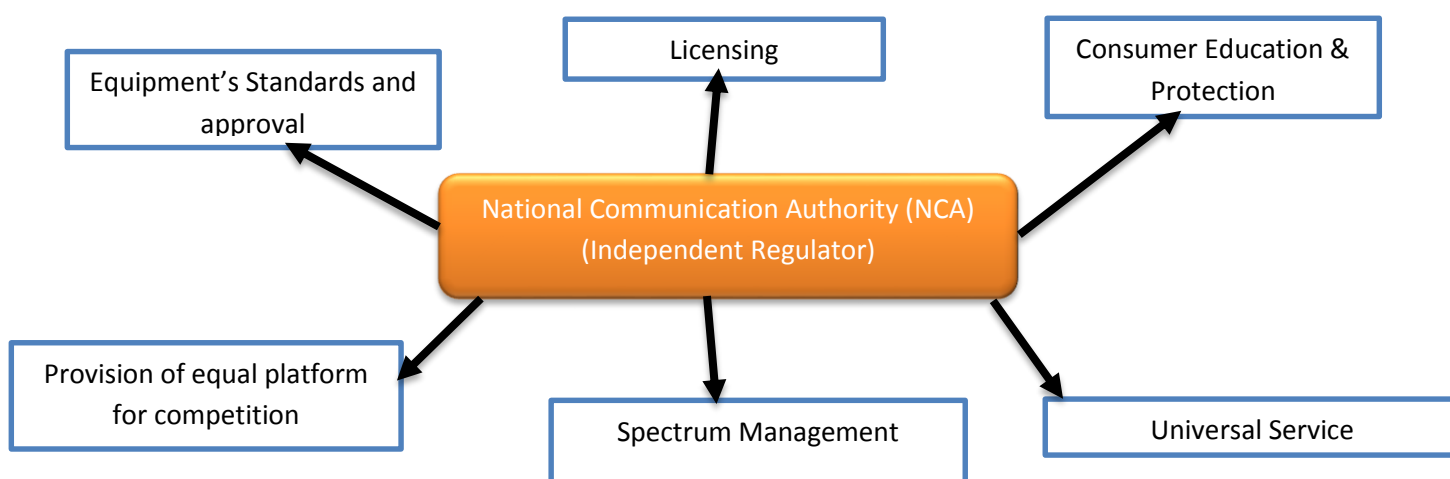
The implementation of the ADP was expected to pave way for the denationalization of the telecom industry.

The primary means to achieve the above aims mentioned by the ADP was the establishment Ghana Telecom in June 1995. This was to replace the then telecommunications division of the Ghanaian Post and Telecommunication Operator (PTO). As reported by Ghana Telecom (2000), the newly established operator did not have any positive effects on either the profitability of the company or its supply of services.

To attract financial investment for the newly established-telecommunications operator, a 30% share of the Ghana Telecom was sold to a consortium led by Telecom Malaysia Berhad.

To introduce competition, the policy called for a second network operator to create a duopoly. The second network operator like the Ghana Telecom was supposed to provide services both locally and internationally. The new second network operator was also going to have a 20-year initial license. During the first five years, the two carriers were to be given nationwide exclusive rights over fixed line telecom services (Allotey and Akorli 1996). The license for the operation of the second network operator was auction at the same period when 30% share of the incumbent (Ghana Telecom) was sold to the consortium led by Telecom Malaysia Berhad.

To achieve the central objectives of the reform process as proposed by the ADP, the National communication Authority was established by an Act of Parliament, NCA Act 524, 1996. Below figure 3 shows major functions and responsibilities of the NCA.



Source: Researcher's (2015)

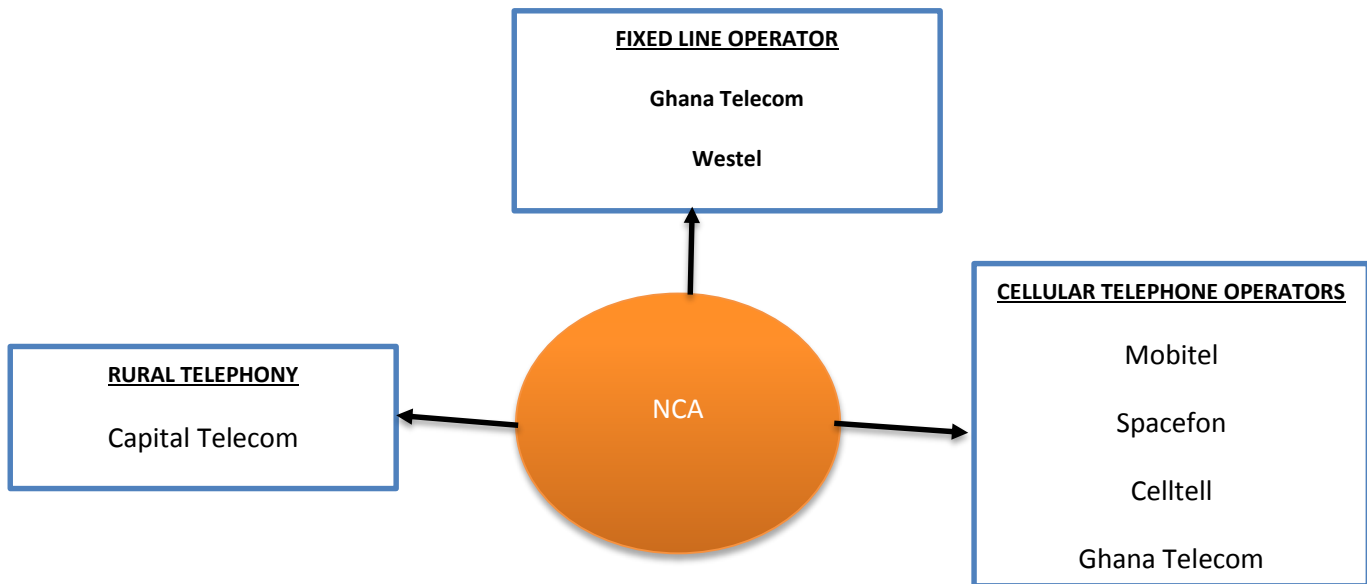
Figure 3: Roles of the NCA

Specific Policy initiatives and periods

After the launched of the ADP and the establishment of the independent regulator, series of policies were rolled out in phases in order to achieve the aims of the Accelerated development program

I. Market Liberalization (1997- 2007)

In line to achieving the ADP objectives, market liberalization, a duopoly was created in December 1997 when Westel paid 10.5million U.S. dollars for the second network operating license. This opened a gate for more liberalization of the cellular markets in Ghana (BMI-T 1998). The figure below shows how the telecom sector responded to the early day's liberalization. Duopoly market created in the fixed line telephony market and oligopoly market at the cellular



Source: Mirrored from Frempong and Atubra (2001)

Figure 4: Market Liberalization

II. Infrastructure Expansion (2008-2014)

Infrastructure Licensing

In accordance with the NCA mandate under the Electronic Communications Act, 2008, Act 775, the National Communications Authority (NCA) has awarded Licenses for the provision of Infrastructure (Towers) in the country. This may expert believe opened the door for the tower business in Ghana. Tower operators were to build tower infrastructure and rent it out to multiple network operators. The project was aimed at reducing cost of building single infrastructure, leveraging competition among network operators whiles improving network coverage in remote areas which under normal circumstances would have been difficult for single operator investment. First infrastructure licensing was issued in 2010. (NCA (2010). This opened the door for tower business in Ghana.

Emergence of Tower Companies

A sure sign of maturity in the telecom sector is the rush to outsource tower management and ownership to third parties as a means of diversifying revenue and focusing on core activities.

According to Charles ‘Chuck’ Green, co-founder and CEO of Helios Towers Africa, one of the major tower companies in Ghana. The call for license of infrastructure by the NCA opened the flood gate for tower companies.

In January 2010 Millicom Ghana (Tigo Ghana) agreed to sell 750 base towers in Helios Towers Ghana (HTG), the deal was the first major sales/leaseback to be completed by the major African telecoms operator and an independent tower company on the continent. Vodafone Ghana also signed a ten year deal with Eaton Towers to take over the operations and co-location management of its existing tower infrastructure. In the same year, 2010 MTN rounded off a joint venture deal with American Towers. The whole issue of the tower business becomes much more of a competitive advance and all the major network wouldn’t want to be left out. To fully achieve its original intent on introducing infrastructure, licensing, license request and granting was tied to sharing of infrastructure irrespective of a joint agreement with specific tower companies.

By September 2014, a press release officially announcing an agreement for the divestment of over 3500 telecoms towers from Airtel (across 6 countries in Africa) to Eaton Towers(an independent tower operator), of which Airtel Ghana was part. Bringing every major network operator on-board.

The major prospect was that, the network operator will be able to focus on what they do best, thus customer services and leaving the management of core infrastructure to the experts. Infrastructure sharing will reduce the burden of single infrastructure ownership and fasten the spread of telecommunication services to rural communities.

Evidence from researchers, looking into Tower Company Landscape Changes in Africa and the Middle East, by accounting firm KPMG found that the costs of providing network infrastructure were being slashed as operators accepted that they could share some basic facilities. KPMG said that infrastructure sharing is promoted by the emergence of tower companies has cut costs of infrastructure investment by single network operators by as much as 16% to 20%, and the accumulated savings on both capex and opex run into billions of dollars.

III. Consumer Protection (2010-2014)

Mobile Number Portability (MNP)

MNP is a system in which a mobile phone customer may change to a different service provider while retaining his entire original mobile phone number, including the old network code.

One of the major aims of the NCA is to protect the consumers, especially in terms of quality of service provisions, the MNP policy allows customers to go to the shop of the service provider to which he wishes to move, and they will handle all the details, working through the central systems to communicate with the customer’s original mobile service provider. From that point onward, the customer will be using the new network, but all calls and messages will still come to him at his original number, and when he makes calls or sends messages, his original number will be shown

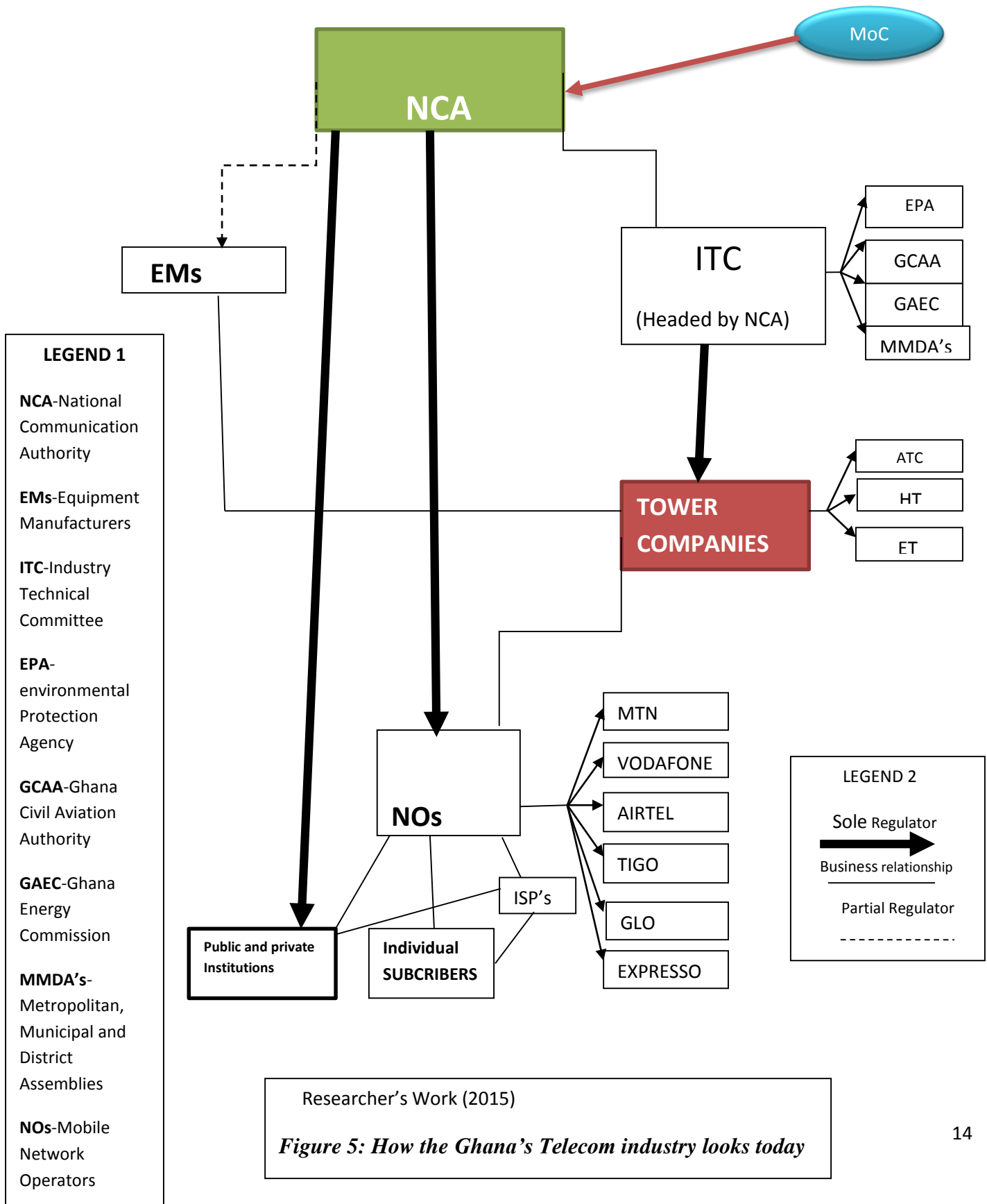
to the person with whom he is communicating. Customers normally port due to quality of service issue or lack of a particular network operator's service in certain areas. The policy which came into full force in 2010, was to put more pressure on the network operator's to pay attention to quality of service issues and also encourage them to spread their coverage.

SIM Card Identification

The National Communications Authority (NCA) announced in July, 2010, the start collection of information by all mobile phone operators aimed at identifying existing and new subscribers to their respective networks. The exercise was to enable the NCA and the Mobile Operators identify mobile phone SIM cards/chips owners and curb incidents such as loss of phone through theft, nuisance text messages, scams, threats, raising unnecessary alarm or creating panic, deliberately or otherwise.

Although this project was aimed to protect the consumer, however, one will say that this particular project was seen as a more political project than a regulatory project due to various incidents before the start of the project. In the run-up to the 2012 general elections, the country was so much tensed with unidentified threat and panic messages circulating to some political leaders and the general public. The then government blamed it on their political foes, saying it was a scheme to make the government unpopular. Backing the need for this project was to help identify such individuals

Impact of the transitional reform on players and the market competition of the industry today



Unlike any other liberalized markets, the government still maintains very strong control in the telecom sector through the Ministry of Communication (MoC) and some appointed government institutions such as the EPA, GCAA, GAEC, MMDAs.

Discussions

Institutional Analysis

In particular, this section of the study will analyze the institutional factors and actors that interacted in the Ghanaian telecom transitional period

Layer 1 – Actors and Agents in socio-technological system

The key actors and agents identified in the Ghanaian telecom transition were; World Bank, WTO, British Government (Colonial Masters), Government of Ghana, International Telecommunication Union (ITU), International Telecommunication giants, GP&T Management and Ghanaian public. The interaction between these actors and agents determined the transition process and affected the nature and output of the reform.

The World Bank, a major financier of the country's economy and in particular GP&T's capital expenditures was interested in the privatization of the GP&T because, same model of telecom liberalization was making gains in developed countries GDP. Though Tobin (2010) reported that, there was some suspicion as to the actual motive of the World Bank's support for privatization. In my recent interviews with some old managers of GP&T reviews that privatization was in the interest of the western partners, since it was an opportunity for them to invest in such emerging market. "As to the benefit to the economy of Ghana, perhaps one will say, it stands to gain, but the timing of the whole process was wrong" a statement from one former manager of GP&T. He argued weak internal structures, Ghana's young democracy and weak private sector participation and any privatization is likely to be managed by a foreign company.

Contemporary European experience and models replicated in Africa, perhaps, will make the work of the ITU easier than having to deal with a more nationalized sector, where the nationalistic nature of it will prevent certain policies which may not favor the government in power implemented.

The Government of Ghana (GoG) was to benefit from two fronts within this transitional or reform process; one- No more direct government investment for the management of the GP&T once privatized and two-GoG was to control the industry through the various arms of government notably MoTC, GFRCB, and the board of GP&T. A move which made (GoG) the principal beneficiary of the telecom reform process, according to one interviewee.

The mismanagement of the GP&T was placed on the doorsteps on the leadership or workers employed. For scoring political points and ambitions, political activists and party foot soldiers without requisite qualification were employed to handle the industry, and this was the major cause of acclaimed inefficiencies of the management of GP&T, according to some interviewees, these political activists who managed the GP&T teamed up with the GoG and diverted incomes from GP&T meant for infrastructure investment into other politically motivated national projects. Furthermore, the inefficiency of the telecom sector as a result of poor leadership was costing the government huge sums of dollars and threatens to derail it from its economic recovery agenda, Tobin (2010)

The above discussions depicts that a combination of poor performance by GP&T, strong government manipulations (without opposition in parliament), weak Workers' Union and a general public apathy are the key endogenous factors that led to the Ghanaian Telecom Reform.

Layer 2 – Formal and Informal Institutional Arrangements

Negotiations to liberalize the basic telecommunication market under the Uruguay Round discussions was initiated by World Trade Organization (WTO) in 1992 .At this time Ghana has just moved into civilian government following years of military rule. Several new policies were initiated by the new civilian government in order to be in harmony with the international donor partners. An initial Structural Adjustment Programs (SAP) had not been successful in reforming the utility sector. Ghana has been just recovering from a great economic recession in the 1980s and in order to put her economy on track, got herself in signing several binding agreements assuring investors of market liberalizations of which the telecom sector was no exception.

Ghana was credited for being one of the few African countries to sign the Uruguay Round agreement in 1997. Though some interviewees believe it was a desperate situation of a country wanting to stimulate its economy back on track after very long economic recessions, other interviewees were of the opinion that for building international trust was the best direction of the newly constituted government. Even before the Uruguay Round agreement in 1997 was signed, In 1995 Ghana Telecom was incorporated as a limited liability company separated from the postal services. And the same year witnessed the sale of the license for the Second Network Operator (SNO) to Western Wireless an American company-A new look of the company is depicted in figure 3.

The import of the WTOs Uruguay Round was to cut open the telecommunication market of developing countries, especially for the companies in the developed economy.

Layer 3 – Formal Institutional Environment

From the nationalization era, during the early beginnings of the telecommunication industry, based on the Ghanaian culture, the colonial masters took to a more micro management style of the industry, where traditional leaders were made to secure network transmission lines with close supervision by the colonial masters. Later public work department and municipalities were the managers of regional telecommunication operations and make maybe yearly reports to the central government depending on the arrangements.

Several agencies at the national level was assigned to regulate the entire countries telecommunication industry. Haggarty et al, (2002), laid the blame of the inefficiencies of GP&T management to the fact that regulation of the industry was divided among conflicting agencies namely, the GP&T, MoTC, Ministry of Finance and GFRCB. Such conflicting task and independence of the organization was what the transition reform process was meant to address.

Two major Acts of Parliament sought to provide independence for the telecommunication industry management and this was part of the reform process. The 1995 Act, which enabled the establishment of the Ghana Telecom as a private limited liability company separated from the postal section. And the December 1996 Act NCA 524 gave the regulator considerable autonomy and powers as described in figure2. However, such independence, sought for by the Act of parliament was put into question since the minister of communication (MoC) has oversight responsibility over the activities of the regulator.

According to some interviewees, even the passage of the Act of parliament to grant full an independence to an independent regulator was passed under full pressure from the international community and the government has up till now violated the act by making the MoC oversee of the NCA.

The recent impasse about the sale of government share of Ghana Telecom to Vodafone by the former government and the current government wanting to reverse the sale, provides evidence of the political interference within the telecommunication industry in Ghana

Layer 4 – Informal Institutional Environment

Ghanaians have always been very emotional and outspoken when it comes to matters of national interest, and this common among most African countries. Any government who decides to sell a national asset, normally spells doom for his government political prospect.

Alhassan (2003) posited that the main endogenous force against the privatization of GP&T was the public's view of GP&T as a national asset. Fear of government making his government unpopular during the early stages of privatization was a major factor why the then GoG did not totally privatize, but rather opted for a regulated sector with controlled private sector participation.

Most political campaigns since 1992 has focused on the opposition accusing the incumbent government of depriving the whole nation by selling or privatizing national companies. Evidence from the 2000 elections when the then incumbent government, National Democratic Congress (NDC) was accused of selling some of the state share of the then Ghana Telecom (GT) to foreign private firm, other national companies including the Pwalugu tomato, Ejisu Jute factory and many more. This many interviewees believed was the cause of the government lost in the general elections. The National Patriotic Party (NPP) was then elected into pay and also faced the same public discontent when it decided to sell the last owed government share of the GT to Vodafone in 2007, causing their shock defeat in 2008 general elections after the then opposition NDC promised the Ghanaian people of renationalization if voted into power. This and many more depict how the Ghanaian culture has greatly affected in decisions concerning the Telecom industry.

Conclusions

The study identified two major periods and their various level of governance, from the Nationalization period or era where management of the sector started from traditional leaders, later to municipalities/ districts and finally to the works and housing department; at the denationalization period or era management was solely in the hands of an independent and a nationalize regulatory authority.

It was also revealed three main policy direction across the period of reform: market liberalization (1997-2007) where Westel limited was introduced into the fixed line market, spacefon, celltell and mobitel all introduced into the cellular telephony market. At the beginning of 2008 policy was directed towards infrastructure expansion, as a result infrastructure licensing was introduced opening the door for international tower companies. Recently, from the beginning of 2011 up to date, policy is directed to consumer protection and projects such as Mobile Number Portability and SIM Card Identification has been rolled out. The use of the institutional theory provided further understanding of the sector reforms. In summation, the research also provided a full picture of how the Ghanaian telecom industry looks today.

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