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Public Utility Deregulation and Service Delivery with Reference to Electricity Industry: A Theoretical Analysis

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ABSTRACT

This study investigates the theoretical foundations and practical outcomes of deregulating public utilities, focusing on the electricity sector and its impact on organizational performance in public and private management. Deregulation, aimed at reducing government control and promoting market dynamics, is often credited with improving efficiency, fostering competition, lowering costs, and driving innovation. However, it also presents challenges such as market failures, monopolies, unequal service access, and profit-driven priorities over public welfare. The research draws on theories like General Equilibrium, Laissez-Faire, Public Choice, Systems Theory, and New Public Management to assess how deregulation shapes organizational structures and decision-making. Using qualitative methods and secondary data, the study highlights deregulation's dual impact: it promotes efficiency and innovation while requiring robust regulation to address risks and ensure equitable access. The paper emphasizes that effective regulatory frameworks are vital to maximize the benefits of deregulation and safeguard public interests.

Keywords: *Public Utility, Deregulation, Service Delivery, Electricity Industry, New Public Management (NPM).*

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INTRODUCTION

At the beginning of the new millennium, the enhancement of public service delivery became an increasingly pressing issue within public administration (Denhardt, 1999; Lorde, Waithe & Francis, 2010). The electricity industry is the most vital utility, as it affects the organization of production and service delivery in all other sectors of the economy, thus influencing economic growth and development. This is why its efficiency garners significant attention. The goal of deregulating public utilities, particularly in the electricity sector, is to improve service delivery by introducing competition and market forces, which should theoretically lead to reduced prices, enhanced efficiency, and greater consumer choice. However, successful deregulation also demands strong regulatory frameworks to prevent monopolistic practices, protect consumers, and ensure system reliability. In the past, electricity was predominantly supplied by government monopolies that owned both the generation plants and the transmission networks necessary for power distribution. In exchange for granting these corporations a monopoly over electricity consumers, states imposed stringent regulations, establishing profit return rates for utilities based on the 'cost of service' and anticipated future energy demands. According to Fox-Penner (1997), the electricity sector was mainly composed of state-regulated, vertically integrated monopolies. Within each service area, a single entity was responsible for generating, transmitting, and distributing electricity, all under the oversight of a state regulatory commission that

enforced traditional rate-of-return regulations. Although this system was often exploited due to the substantial political clout of electric utilities and their ability to influence state legislators, it was still viewed as the most reliable and economical electric system worldwide.

Deregulation refers to the dismantling of vertically-integrated companies, enabling newly deregulated power plants to sell electricity at market-driven prices, in contrast to the previous model where prices were linked to production costs plus a fair, regulated profit margin. The concept of deregulation involves the disbanding of monopolistic structures at the state level, allowing power plants to be sold to third parties or controversially transferred to unregulated affiliates of the utility, moving away from the traditional pricing model tied to costs and regulated profits. Deregulation is the act of eliminating or lessening state-imposed regulations, particularly in the economic sector. This shift, which gained traction in the 1970s and 1980s among advanced industrial nations, arose from new economic perspectives on the drawbacks of government oversight and the potential for regulatory bodies to be influenced by the industries they oversee, ultimately disadvantaging consumers and the broader economy. Proponents of deregulation argue that simplifying and reducing regulations can boost competitiveness, resulting in higher productivity, improved efficiency, and lower prices for consumers. However, opposition to deregulation may stem from concerns about environmental degradation (Daly, 1994) and the potential decline in environmental quality standards, such as the easing of regulations on hazardous substances, as well as financial instability and the risk of monopolistic practices. It is important to note that deregulation is distinct from privatization, which involves transferring ownership of state-run enterprises to the private sector. Recent developments have transformed the established industrial organization of electricity markets (Wilson, 1998). These developments involve the introduction of markets akin to stock exchanges for electricity transactions and the recognition of transmission and distribution lines as common carriers responsible for transporting the most affordable power identified through the auction market's processes. Supporters of these reforms contend that the objective of transmission is to promote competition among generators in providing electricity to consumers (Fox-Penner, 1997). For many years, it has been recognized that electricity generation is not prone to market failure and should therefore be influenced by market forces (Weiss, 1975). The push for a deregulated electricity market is largely driven by large industrial consumers, particularly in Nigeria, resisting high costs from traditional vertically integrated utilities. These costs stem from expensive nuclear plant construction and long-term contracts with independent and renewable energy producers, which, while meant to hedge against fossil fuel price spikes, have proven economically inefficient, worsening financial pressures in the sector. Modifications in market regulations typically benefit certain parties while disadvantaging others and the electricity sector is no different. As the industry transitions to a competitive generation market, some high-cost plants may struggle to generate sufficient revenue to cover their initial capital investments, leading to a significant decline in their market value compared to their book value. Electricity regulation reform has largely focused on the generation sector, as it can thrive in a competitive market. However, transmission and distribution still require oversight to ensure fairness and reliability. The existing framework promotes open access, allowing all generators to use these networks at standardized regulatory rates, encouraging competition while upholding efficiency and equity (Crews, Jr., 1998).

The deregulation of the electricity sector, as seen in Nigeria, seeks to enhance service delivery by transitioning from a government-controlled monopoly to a market-oriented framework. This concept includes the separation of the electricity supply industry (ESI), privatization, and the creation of a regulatory authority. The objective is to promote competition, draw in private investments, and ultimately boost the efficiency, reliability, and accessibility of power. By synthesizing theoretical frameworks such as General Equilibrium theory, Laissez-Faire or Perfect Liberty theory, Public Choice theory, Systems theory and New Public Management theory, this research offers a conceptual basis for analyzing the evolving connection between the deregulation of public utilities and service delivery, particularly in the electricity sector.

The following theories formed the theoretical foundation of the literature review:

General Equilibrium Theory

The main advocate of general equilibrium theory is the French economist Léon Walras, who introduced the concept in his 1874 publication, "Elements of Pure Economics." Although the fundamental idea had been proposed earlier, Walras established a detailed framework. Key contributors who further advanced the theory include Lionel McKenzie, Kenneth Arrow, and Gérard Debreu, who made significant enhancements in the 20th century. The theory evolved into its contemporary form through the contributions of Lionel W. McKenzie (Walrasian theory) and Kenneth Arrow and Gérard Debreu (Hicksian theory) during the 1950s.

According to Godwin & Dogogo (2010), the theoretical basis for deregulation is primarily derived from general equilibrium theory, which emphasizes the importance of efficient pricing for the optimal allocation of society's scarce resources. This is crucial for the effective production of societal needs and the equitable distribution of goods and services among consumers. Therefore, the principles of perfect competition and free markets suggest that general equilibrium analysis will likely result in an optimal resource allocation, as competitive equilibrium prices balance supply and demand. In the long term, firms capable of profitable production will enter the market,

fostering stable and sustainable growth (CBN, 1993).

It is clear that optimal outcomes cannot be realized through centralized planning or command economies that rely on complex controls. This is due to the difficulty such systems face in establishing efficient pricing that allows firms to maximize profits while covering costs and achieving reasonable margins, all while ensuring consumers maximize their utility. Furthermore, there has been ongoing debate in economics regarding the state's role in economic affairs (Killick, 1989).

Historically, the economic function of the state has been characterized by its responsibility to address or eliminate various market failures that significantly hinder the allocative efficiency of the free market, thereby necessitating government intervention. Key issues include competition failures, externalities, incomplete markets, information deficiencies, public and merit goods, macroeconomic instability, creative failures, and poverty and inequality. However, development economists have shifted away from the belief that market failures alone justify state intervention. Experience, particularly in the unique contexts of developing countries, has shown that governments must take action to correct these failures through taxation and subsidies to alleviate, if not completely eliminate, the distortions caused by market failures. Even among Socialist Economists (Social Democrats), the phenomenon of market globalization is broadly acknowledged (Killick, 1989).

Significantly, there exists a symbiotic relationship between capitalism, colonialism, and imperialism, which serves as the theoretical foundation for deregulation. Colonialism, defined as the practice of a dominant power exerting territorial control over a weaker nation or group, has a rich history and is often associated with the late 19th-century imperialists who expanded their dominion across vast regions of the world. The inherent contradiction within capitalism, particularly regarding the transplantation process, led to a decline in profit rates and hindered the accumulation of surplus capital in 19th-century Western society. This situation, driven by capitalism's relentless pursuit of profit maximization, necessitated the creation of new environments for continued accumulation. Consequently, capitalists sought foreign territories, invaded and dominated them, and integrated their economies with those of Western Europe through imperialistic colonization. The legacy of Western imperialism, especially colonialism intertwined with capitalism, remains a pivotal aspect of Nigeria's history, as it does for many other colonized nations. Undoubtedly, colonialism significantly undermined the economies of Third World countries, disrupting and distorting their social and economic structures. These economies became disjointed, focusing primarily on the production of raw materials for the developed nations in a context of unequal exchange. As a result, the colonized peripheral nations became heavily reliant on the developed countries for nearly all their needs. Therefore, it can be concluded that The deregulation of Nigeria's economy is a concept promoted and implemented by the developed nations through institutions like the World Bank and the International Monetary Fund (IMF) (Ihonvbere, 1989).

Additionally, classical political economy, rooted in capitalism, focused primarily on optimizing the production, distribution, exchange, and consumption of goods and services, advocating for minimal government intervention and emphasizing market dynamics for growth and development. Its objective was to eliminate barriers imposed by overreaching governments and bureaucrats on the free functioning of a market economy, thereby supporting the market's reputed efficiency (Misham, 1982). In its efforts to champion capitalism and liberalism, classical political economy posited that a nation's genuine economic wealth stems from its industry and the people's economic right to choose, suggesting that the state should limit its role to ensuring internal and external security while opposing various restrictions on international trade. Consequently, the ongoing deregulation of the Nigerian economy can be traced back to the principles of classical political economy (Momoh & Hundeyin, 1999). Moreover, the global economic framework, fundamentally capitalist, fosters an international division of labor where industrialized capitalist countries (IOCs) manufacture goods while third-world nations are compelled to supply raw materials, with prices dictated by the IOCs. This inequitable international division of labor originated from colonialism driven by imperialism and is currently sustained by the political frameworks of the Bretton Woods institutions, represented by the World Bank and IMF, which have established the Euro-dollar as a dominant international currency and gold reserve. To maintain the global economic framework, an international capitalist financial system was created, consisting of multilateral institutions such as the General Agreement on Tariffs and Trade (GATT), the International Monetary Fund (IMF), and the World Bank Group, which includes the International Bank for Reconstruction and Development (IBRD), the International Development Association (IDA), and the International Finance Corporation (IFC). The World Bank and IMF were initially established to provide aid to European nations recovering from the devastation of the First and Second World Wars, facilitating their economic reconstruction. However, over time, their focus and policy objectives have evolved. Notably, since 1979, the IMF has increasingly directed its assistance towards developing countries through its Extended Fund Facility and Stand-By Arrangements, albeit with certain preconditions.

In a similar vein, the IMF provides a 'letter of intent' to member nations seeking World Bank loans, which come with stringent conditions, including economic deregulation. A closer examination of these conditions highlights their detrimental impact on countries like Nigeria, which find themselves ensnared in a 'debt trap' and forced to endure harsh measures. Clearly, the implementation of policies rooted in economic liberalism and deregulation has exacerbated poverty in Third World nations, intensifying their economic crises to alarming levels. In summary, the

actions of the World Bank and IMF have recently further hindered the development of Third World countries, such as Nigeria, increasing their reliance on and subservience to Western powers. The World Bank and IMF enforce conditions focused on economic deregulation and governance reforms, including trade liberalization, anti-inflation measures, adjustments to wages and prices, and policies favoring foreign investment and multinationals. They also advocate privatizing public enterprises and cutting social services to meet structural adjustment objectives.

Perfect competition

This market structure features a significant number of informed and independent buyers and sellers who offer identical products. It is often regarded as the ideal market structure for evaluating others (Otokiti, 2000). Perfect competition is characterized by five key conditions:

1. A significant number of buyers and sellers exist, with no single buyer able to sway the product's price.

2. The products traded by buyers and sellers are uniform, lacking any quality differences that would necessitate brand names or advertising. For instance, the market for table salt exemplifies these traits, as all salt consists of the same chemical compound, Sodium Chloride, making brand preference illogical.

3. All buyers and sellers operate independently, leading to competition among sellers for consumer spending and among consumers for the best prices. This competitive environment effectively drives prices downward.

4. Both buyers and sellers possess a strong understanding of available products and their pricing. Informed buyers prefer to shop at stores offering the lowest prices, while knowledgeable sellers strive to match their prices with those of their competitors to avoid losing customers.

5. Buyers and sellers can freely enter and exit the market, allowing them to engage in trade and withdraw from the business as they choose. This freedom of movement compels manufacturers in any industry to maintain a share of the market. Producers must keep their prices competitive, otherwise, new entrants may capture their business.

Achieving a perfectly competitive market can be challenging; however, local vegetable farming, also known as 'Truck' farming, can closely meet the five conditions outlined in Economic Principles: Microeconomics unit 2, 1997. In perfectly competitive markets, the equilibrium price is determined by supply and demand. Each firm aims to choose a production level that maximizes its profits, which occurs when marginal cost equals marginal revenue. Consequently, due to the large market size, the homogeneity of products, and the inability of any single firm to affect prices, consumers purchase goods at reasonable prices. Competition plays a crucial role in establishing these prices.

Monopolistic competition

Monopolistic competition is a market structure that shares characteristics with perfect competition. It meets all five conditions of perfect competition, but the products offered are not completely homogeneous. By differentiating their products, monopolistic competitors aim to draw in more customers and capture a small segment of the market. Market entry is relatively straightforward.

The primary industries present in this area are gas stations and women's apparel. In a monopolistic competition framework, the profit-maximizing behavior of a monopolistic competitor aligns with that of other firms. A firm is anticipated to produce output at the level where marginal cost equals marginal revenue. Therefore, the firm's ability to persuade consumers of the superiority of its product will influence its capacity to set higher prices. Monopolistic competitors can easily enter the market, attracting new firms due to the profit potential, as each offers a product that is only slightly different from those already available. Consequently, the presence of competition ensures that consumers can purchase products at reasonable prices.

Product differentiation

Monopolistic competition involves the differentiation of products, where competing items within the same industry exhibit distinct characteristics. Today, we can observe numerous examples of such differentiated products, including various brands of athletic shoes, personal computers, and mobile phones. This differentiation can also encompass factors such as store location, design, payment options, packaging, and delivery methods (Otokiti, 2000).

Non-price competition

Monopolistic competitors must ensure that consumers recognize the variations in products, which leads to differing prices. Price competition is absent in this scenario. Instead, advertising, free product offerings, and various promotional tactics serve as substitutes for price competition.

Oligopoly

In this market structure, a small number of large companies typically control the market. Oligopolistic products can either be differentiated, as seen in the automotive sector, or standardized, such as in the steel industry. The key factor here is the ability of any firm to adjust output, sales, and prices. The quantity of firms in the industry is not particularly significant. Consequently,

oligopoly resembles monopolistic competition more than it does perfect competition. Numerous markets in the United States have reached an oligopolistic state, with examples including Pepsi and Coke in the soft drink sector, and McDonald's, Burger King, and Wendy's in the fast food industry (Economic Principles: Microeconomics unit 2, 1997). The automobile and aluminum industries also fall into this category. Like any other firm, an oligopolist aims to maximize profit at the output level where marginal cost equals marginal revenue. Upon determining this output level, the oligopolist will set prices according to the sales volume.

Given that each oligopolist recognizes the significant power and influence other firms have over consumer choices, they tend to operate collectively. This independent behavior often leads to collusion, particularly in price-setting. Moreover, if one firm attempts to raise its prices, expecting others to follow, it may find itself alone in this decision. If this occurs, the firm must revert to its original pricing to avoid losing customers to competitors. Similarly, an oligopolist might choose to reduce its product prices, anticipating that others will do the same. However, if one firm lowers its prices, it can trigger a price war, as other firms may feel compelled to match these cuts, resulting in a series of reductions that typically lead to lower overall prices. Although price wars are intense and brief, they ultimately benefit consumers by providing lower prices for products.

Monopoly

Monopoly is a market structure characterized by a single seller for a specific product, standing in stark contrast to perfect competition. This represents an extreme scenario. In the American economy, there appear to be few, if any, instances of pure monopoly. Local television operators or cable services may be the closest examples. Competition exists, for instance, between telephone companies and other communication providers such as the United States Postal Service and various internet service providers. NITEL functioned as a monopoly when the Nigerian government exclusively controlled telephone service provision.

True monopolies are rare, but the water industry comes close. Monopolies, like other businesses, aim to maximize profits by producing at the level where marginal cost meets marginal revenue. The monopolist sets the price that aligns marginal cost with marginal revenue. As a price maker, the monopolist consistently charges higher prices for their products, which is not beneficial for consumers who end up paying more.

Laissez-Faire or Perfect Liberty Theory

The theory of laissez-faire, also known as Perfect Liberty, was introduced by Adam Smith. This principle advocates for a market free from government interference, allowing individual self - interest and competition to thrive (Smith, 1776). It is crucial to recognize that Adam Smith championed the free market system in 1776. In his seminal work, An Inquiry into the Nature and Causes of the Wealth of Nations, he emphasized that the government should refrain from meddling in commerce or trade. Thus, he supported the idea of 'Laissez-Faire,' a French term meaning 'Let them do' (Smith, 1776). He argued that the government's role should focus on safeguarding private property, enforcing contracts, resolving disputes, and protecting businesses from heightened competition posed by foreign products.

Smith argued that true wealth is not determined by the total money a nation holds, but rather by the purchasing power of that money. He believed that government intervention in trade diminishes national wealth by limiting the ability to acquire the greatest quantity of goods at the lowest prices. According to him, free trade allows countries to boost their wealth by exporting goods they can produce most efficiently and importing those that are cheaper to produce elsewhere. Smith maintained that his aim was not to harm the vulnerable or impoverished; rather, he was convinced that an invisible hand would guide the market system to benefit the public at large, as a self-regulating market would ultimately enhance wealth. This perspective has influenced contemporary support for open market systems, which acknowledge two key insights from Smith (1776) first, that a competitive society of profit-driven individuals can effectively manage its material needs through a self-regulating market; and second, that such a society is likely to accumulate capital, thereby increasing its productivity and overall wealth.

To further his economic theory, Smith put forth the concept of comparative advantage in international trade. He posited that each nation should specialize in the production and export of goods where it has an absolute advantage. This theory of comparative advantage was subsequently expanded upon by Smith's compatriots and members of the international liberation school, including David Ricardo and John Stuart Mill. In the marketplace, the prices of goods and services play a crucial role in conveying consumer demand to producers, thus influencing the allocation of resources to meet the desires of consumers and investors. In a free market, the pricing system is the result of numerous voluntary transactions, unlike the political directives seen in controlled markets. The more liberated the market, the more accurately prices reflect consumer habits and demands, enhancing the significance of the information these prices provide to all economic actors. Through competitive dynamics among suppliers for the delivery of products and services, prices generally decrease while quality tends to improve. The interpretation of a 'free' market has shifted over time and varies among economists, with the term 'free' often being subject to different meanings. For example, classical economists such as Adam Smith argue that an economy should be free from monopoly rents, while advocates of laissez-faire believe that individuals should have the liberty to form monopolies.

Free Market System

It is vital to understand that the nature of an economic system in a country is determined by the ownership of resources, the decision-making processes regarding what and how much to produce, and the distribution of the produced goods (Otokiti, 2000).

Cindy (2011) suggests that a market economy is primarily influenced by supply and demand rather than by government intervention. Mendes (2010) indicates that a free market is one with minimal or no government involvement. Black (2002) observes that in a free market, individuals engage in voluntary transactions without legal restrictions. In this framework, the quantities traded and the prices at which trades occur are not controlled by external authorities. However, this does not imply that markets operate without any legal oversight.

Lipsey (1979) characterizes a free market as one where central authorities do not exert direct control. In these markets, buyers and sellers independently determine the quantities and prices for their transactions. He further explains that a controlled market is one where central authorities maintain significant direct control.

Major Concepts or attributes of free market system

Cindy (2011) highlighted the following attributes of free market economy:

1. Limited Government Role. Majority of economic decisions are taken by buyers and sellers not by government. The economy is self-regulating and self-adjusting.
2. The decisions to produce and quantities to produce are affected by pressures of competition, demand and supply.
3. Private Ownership. Capital and Natural resources like equipment and buildings are not owned by government. The goods and services produced in the economy are privately owned. This private ownership in conjunction with the freedom to negotiate legally binding contracts will enable people to obtain and use resources as they choose.

Deregulation Theory

Proponents of deregulation, like George Stigler, Alfred E. Kahn, and scholars from the Chicago School of Economics, argue that removing or reducing regulations can lead to increased competition, economic growth, and efficiency. They believe that allowing businesses to operate more freely can stimulate the economy, create jobs, and ultimately benefit consumers.

Deregulation theory, in essence, explores the concept of reducing or removing government regulations, particularly within specific industries. Proponents argue that deregulation promotes competition and economic growth by allowing businesses to operate more freely and efficiently. Opponents, however, raise concerns about potential negative impacts on consumer protection, environmental quality, and financial stability.

Benefits of Deregulation

a) It stimulates economic activity because it eliminates restrictions for new businesses to enter the market, which increases competition.
b) Since there is more competition in the market, it improves innovation and increases market growth as businesses compete with each other. When more businesses compete with each other, prices go down for consumers.
c) Companies no longer need to utilize resources and capital to meet restrictions and comply with regulations. In turn, they can use the resources to invest in research and development.
d) Businesses can operate without worrying about restrictions and regulations to govern them. They are allowed to develop new products, set their own prices, venture into foreign countries, purchase new assets, and interact with consumers without restrictions to hold them back.

The theoretical foundation of deregulation draws largely from the general equilibrium theory which among other things indicates the relevance of efficient pricing in ensuring optimal allocation of society's limited resources for efficient production of the various needs of society and efficient distribution of the commodities and services among various consumers. Thus, the concept of perfect competition and free market imply that the general equilibrium analysis will tend to yield an optimal allocation of resources since competitive equilibrium prices ensures that supply and demand are equal and in the long-run, all firms which can produce profitably will enter the industry to ensure long-run stable and sustainable growth (CBN, 1993).

Deregulation's Impact on Public Utilities and Service Delivery:

i: Increased Efficiency and Reduced Costs: Deregulation can incentivize firms to become more efficient by reducing bureaucratic red tape and allowing them to operate with greater flexibility, potentially lowering costs per unit of service.
ii: Lower Prices for Consumers: Competition arising from deregulation can lead to lower prices for consumers, as companies strive to attract customers with competitive rates.
iii: Enhanced Competition: Removing barriers to entry allows new businesses to enter the market, increasing competition and potentially driving innovation and better service offerings.
iv: Potential for Increased Efficiency in Developing Countries: Deregulation and privatization can lead to greater efficiency in developing countries, potentially reducing average vehicle size (as seen in the case of UK bus services) and potentially increasing fares, as noted by Gwilliam (2001).
v: Government Oversight Remains Important: Even with

deregulation, some argue that government oversight is still necessary to ensure quality of service, consumer protection, and the maintenance of essential public service obligations, as suggested by the European Union's actions to strengthen service public aspects of utilities.

vi: Balancing Competition and Public Service: The deregulation process needs to strike a balance between promoting competition and ensuring the delivery of essential public services.

vii: Risk of Reduced Universal Access: Deregulation can sometimes lead to a focus on profitability, potentially reducing universal access to essential services in certain areas.

It is obvious that such optimality results cannot be achieved under centralized planning or command economies which depend on elaborate control. This is because such system is hardly able to arrive at a set of efficient prices which will ensure that all firms maximize their profits by covering their costs and earning reasonable margins, while consumers maximize their unity. And even in recent times, there has been some ferment in economics about the role of the state in economic life (Killick, 1989). Deregulation, in theory, aims to improve public service delivery by reducing government interference and fostering competition, potentially leading to efficiency and cost-effectiveness. However, in practice, it can also lead to quality decline and exacerbate existing inequalities.

Public Choice Theory

Public choice theory is a multidisciplinary area that utilizes economic concepts to examine political decision-making and public policy. It posits that individuals, such as politicians and voters, are mainly driven by self-interest in both the private and public domains. This perspective aids in comprehending how government decisions and policies are influenced by these self-serving participants. Notable contributors to public choice theory include James Buchanan, Gordon Tullock, Kenneth Arrow, Duncan Black, Anthony Downs, William Niskanen, and Mancur Olson, among others.

Public choice theory, a concept in economics and political science, indicates that deregulation may arise from various self-serving motivations of participants in the regulatory framework, including regulatory bodies, industries, and consumers. This theory suggests that deregulation can be a means to fulfill specific political and economic objectives, even if it does not align with the public's best interests.

In contrast, the public interest theory of regulation posits that regulations are designed to protect consumers by limiting the detrimental practices of businesses. However, this view is increasingly contested by proponents of public choice theory, which asserts that all individuals, including those in public service, act out of self-interest. They advocate for the capture theory of regulation, which claims that government regulations frequently benefit the firms being regulated rather than their clientele.

Competing companies are often motivated to form collusions or cartels. However, the public is safeguarded from such practices due to a strong incentive for these companies to betray one another. Capture theory posits that companies pursue licenses and regulatory measures to block new entrants into the market. They also advocate for price controls to mitigate price competition. In this framework, regulators assume the responsibility of monitoring cartel pricing strategies, as individual firms within a cartel lack the capability to do so. Given that regulatory bodies cannot possess as much information as the firms they oversee, and often depend on data supplied by these firms, companies find methods to influence regulators into enforcing rules that secure their profits. Consequently, regulators become 'captured' by the very entities they are meant to oversee.

In conjunction with the capture theory, public choice theory posits that employees within regulatory agencies are not immune to self-interest. They prioritize their own satisfaction over the public good. This perspective implies that regulatory bodies aim to grow their bureaucratic frameworks to benefit the interests of their personnel. As the entities responsible for safeguarding the public from market challenges, bureaucrats tend to align with lobbyists and special interest groups.

Public choice theory interprets the regulatory landscape as a competitive arena where various factions strive to advance their own agendas. Companies may manipulate regulations to reduce competition, while consumers may advocate for lower prices or product modifications. Regulators may also seek to enhance their own status or financial rewards. The overarching aim of economic efficiency is unlikely to align with the interests of any single group; thus, public choice theory does not anticipate that efficiency will be a priority in the regulatory framework. While regulation may rectify some inefficiency, it does not guarantee improvement in all cases.

Systems Theory and Public Service Delivery

Systems theory, as articulated by David Easton, conceptualizes political systems, including the power sector, as intricate networks of interrelated processes that convert inputs into outputs. By examining the electricity sector as a subsystem of the broader Nigerian social system, one can pinpoint inefficiencies and assess the effects of reforms on service delivery.

This theory is widely recognized as the primary framework for systems analysis. Easton (1965) posited that a political system comprises a complex array of processes or interactions that transform specific inputs into outputs, which manifest as authoritative policies, decisions, and their execution. In this theoretical framework, the power sector is viewed as a subsystem within the expansive Nigerian social system. Inefficiencies within the power sector have repercussions for the entire system, as society operates as an interconnected system

of component units.Inefficiencies stemming from accountability issues or corruption within the power sector can lead to inadequate power supply, potentially jeopardizing the operations of the health and education sectors. Specifically, systems analysis examines how the interactions among various components and the broader social system influence the overall system. In this context, systems theory elucidates the impact of subpar power service delivery on interconnected sectors, including households, businesses, and public organizations.

By employing a systems approach, various methodologies can be utilized to analyze the systemic repercussions of inefficiencies in the power sector. One such methodology is Data Envelopment Analysis (DEA), a model introduced by Charnes, Cooper, and Rhodes in 1978. In the DEA framework, efficiency is quantified as the ratio of the weighted sum of outputs to the weighted sum of inputs, with the weight structure determined through mathematical programming under the assumption of constant returns to scale (CRS). In 1984, Banker, Charnes, and Cooper expanded this model to incorporate variable returns to scale (VRS). This research specifically evaluates the degree of inefficiency in the power sector in relation to accountability, corruption, and the unequal distribution of power.

The challenge lies in assessing whether the power sector's output aligns with the needs of end users. David Easton's (1965) foundational assumption regarding the input/output relationship indicates the necessity of evaluating key indicators and the interplay of variables between input and output, along with the required support systems.

Essentially, all systems encompass various types and levels of interaction. The power sector, as a system, features a hierarchical command structure that facilitates certain interactions, which may be either internal or external. Regardless of their nature, these interactions occur within a defined environment and involve a degree of social engagement. While the systems theory of social interaction is widely utilized for corporate systems analysis, it does have drawbacks when it comes to measuring efficiency. One such drawback is the misconception of interrelatedness within a system, where certain components in a formal sector may intentionally or unintentionally detach from the overall system, leading to dysfunction. Nevertheless, the assumptions of interrelatedness and interactions within a system foster inclusive growth, adaptability, and reciprocity, which are crucial for addressing efficiency concerns.

Systems theory provides a significant framework for enhancing public service delivery by conceptualizing it as a complex, interconnected system. This perspective highlights the interactions among various system components, their mutual influences, and their responses to external factors.

By employing this approach, policymakers can pinpoint areas for intervention that can yield substantial improvements in service effectiveness.

New Public Management Theory

Key figures associated with New Public Management (NPM) include Christopher Hood, who is credited with coining the term, and David Osborne and Ted Gaebler, authors of "Reinventing Government". 'New Public Management' (NPM) was introduced to public sector organizations in the late 1970s (Wilenski, 1988, p.213; Pollitt, 1990, p.vii; Cohen et al., 1999, p.477; Clarke & Clegg, 1999; Dent & Barry, 2004, p.7; Adcroft & Willis, 2005, p.389). Proponents argue that deregulation can lead to increased efficiency, reduced costs, and improved service quality due to competition and market forces. New Public Management (NPM) emphasizes efficiency, effectiveness, and responsiveness in public service delivery by applying business-like techniques and market mechanisms like competition and contracting out. Deregulation of public utilities, a key aspect of NPM, involves reducing government control and promoting private sector involvement. This shift aims to improve service quality, reduce costs, and increase efficiency, but it also raises concerns about equity and democratic accountability.

It has been introduced to all public service sectors: government and governmental organizations, regional and local government, higher education institutions, health services, the criminal justice system, police forces, the legal profession, and professional service organizations (McAuley et al., 2000, p. 89; Kirkpatrick et al., 2005).

In the arena of public administration theory and practice New Public Management (NPM) method has been the leading paradigm. New Public Management (NPM) identifies the lacking and failures of performance of public sector over time and the difficulties lying directly in the nature and procedures of traditional public administration and the activities of public sectors. This NPM offers the technique of restructuring of the bodies of the public sector to get there management methods nearer to business approaches. New Public Management (NPM) is a public administration reform that incorporates business management principles into the public sector to improve efficiency, effectiveness and service quality. It emphasizes market-based approaches, performance-oriented management, and customer-centric service delivery. NPM aims to make public services more responsive to citizen needs and expectations.

New public management (NPM) is an approach to running public service organizations that is used in government and public service institutions and agencies, at both sub-national and national levels. NPM is a part of an effort to make the public service more "businesslike" and to improve its efficiency by using private sector management models.

As with the private sector, which focuses on customer service and maximizing shareholder wealth, NPM reforms often focused on the "centrality of citizens who were the recipient of the services or customers to the public sector. NPM reformers experimented with using decentralized

service delivery models, to give local agencies more freedom in how they delivered programmes or services. In some cases, NPM reforms that used e-government consolidated a program or service to a central location to reduce costs. Key themes in NPM were "financial control, value for money, increasing efficiency identifying and setting targets and continuance monitoring of performance, handing over power to the senior management" executives. Performance was assessed with audits, benchmarks and performance evaluations. Some NPM reforms used private sector companies to deliver what were formerly public services.

In NPM, citizens are viewed as "customers" and public servants are viewed as public managers. NPM tries to realign the relationship between public service managers and their political superiors by making a parallel relationship between the two. Under NPM, public managers have incentive-based motivation such as pay-for-performance, and clear performance targets are often set, which are assessed by using performance evaluations. As well, managers in an NPM paradigm may have greater discretion and freedom as to how they go about achieving the goals set for them. This NPM approach is contrasted with the traditional public administration model, in which institutional decision-making, policy-making and public service delivery is guided by regulations, legislation and administrative procedures.

NPM reforms use approaches such as disaggregation, customer satisfaction initiatives, and customer service efforts, applying an entrepreneurial spirit to public service, and introducing innovations. The NPM system allows "the expert manager to have a greater discretion". "Public Managers under the New Public Management reforms can provide a range of choices from which customers can choose, including the right to opt out of the service delivery system completely.

Nigeria, like many other countries, has been implementing NPM reforms, including deregulation of certain public utilities and services. These reforms aim to improve efficiency and attract private investment to support economic development. However, it's crucial to consider the potential social and economic implications of these changes to ensure equitable and sustainable service delivery.

Deregulation and NPM can have significant impacts on how public services are delivered. For example, privatizing electricity distribution can lead to different pricing structures, service standards, and customer service approaches compared to state-owned utilities.

CONCLUSION

This study utilizes fundamental theoretical frameworks such as General Equilibrium theory, Laissez-Faire or Perfect Liberty theory, Public Choice theory, and New Public Management theory to illustrate how deregulation in the energy sector can be perceived as actions taken by regulatory bodies, including government agencies, to eliminate constraints, thus fostering market competition and lowering consumer power costs. Numerous nations globally have adopted deregulation strategies to stabilize electricity pricing and allocate authority to select entities overseeing power distribution. The deregulation of public utilities presents a multifaceted challenge with both possible advantages and disadvantages. Although it may enhance efficiency and spur innovation, it also poses risks of market failure, unequal access, and prioritization of profit over public welfare. An effective regulatory framework is vital to ensure that deregulation results in better service delivery and societal benefits. The competitive restructuring of energy sectors offers new opportunities for markets, and one perspective on contemporary competition policies is that they represent a public choice victory for markets against regulatory shortcomings. While deregulation can provide potential advantages for public service provision, it is essential to weigh the possible drawbacks and establish necessary protections to safeguard the public interest. A comprehensive approach that evaluates both the theoretical advantages and potential hazards is critical to optimize the positive effects of deregulation while alleviating adverse outcomes.

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