"Strategizing to Survive": How Ghanaian Public Universities Strategically Respond to Public Funding Challenges

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Abstract

Public universities strategic responses to the dwindling public funding in Ghana is an area of study that has received relatively little academic attention in the Ghanaian Higher Education (HE) milieu. This study, employing an exploratory research paradigm, sought to investigate the strategic actions taken by public universities in Ghana as a response to their public funding from the government which has undergone a series of gradual but significant changes in recent times. The study adopted a qualitative research approach with an embedded multiple case study design. Using data from semi-structured interviews in two public universities and documentary evidence, the main findings revealed that the major source of HE institutional pressures emanates from their limited and irregular public funding that inhibits their proper planning and the delivery of teaching, learning, and research. The results further indicated that the public universities as a response have implemented certain strategic actions to mitigate the effects of their limited public funding. The strategies identified included activities such as; revenue from diversified educational services, the expansion of non-traditional sources of income generating activities, and the commercialization of research. Reducing cost through better budgetary efficiency also assumed a greater strategy for the universities. The study revealed that, although the public universities continue to depend haplessly on the limited public funding, they are also actively involved in other diversified and alternative income generating activities in order to survive.

Keywords: Public Funding, Strategic Responses, Higher Education, Public Universities, Ghana

1. Introduction

The diminishing financial resources and the growing demand for participation remain the biggest threat to higher education in Ghana (Atuahene, 2015)

The response strategies that organisations employ to deal with changes in their environments have been of academic interest for many years, especially in the corporate world. Comparatively, relatively little attention has been paid to this issue in the public sector, HEIs included. It has been argued that organisations do not exist in a vacuum but rather they interact with their environment in order to achieve their core mandates and objectives (Gornitzka, 1999). As posited by Fumasoli and Stensaker (2013) universities are deemed to be adaptive or reactive institutions that respond and adjust to external environmental demands. Some of these demands include HE rankings, ICT revolution, as well as diminishing critical resources, especially university funding, from the state, foreign donor agencies, and foundations. The issue of funding has, in general, become a great concern for many universities, and national governments amid the recent global financial crisis coupled with the rising cost of HE. This is because as succinctly argued by Powell and Rey (2015), the social contract or pact (Maassen and Olsen, 2007) that exits between the state and the public universities is changing. It has, therefore, become imperative for universities to develop effective strategies in order to handle the funding uncertainties they are faced with. Paradeise et al. (2009) corroborate this by asserting the need for universities to adapt especially in this era of financial crisis due to the gradual decrease of per capita public investment in HE in many countries. Those institutions that are unable to adapt quickly to their environmental changes can be expected to face major difficulties (Duderstadt and Womack, 2003). This is particularly true for HEIs in developing countries, including Ghana, as the majority of them are to a large extent dependent on national governments for their funding. Public universities in Ghana have long enjoyed substantial support from the state to support their basic functions and administration over the years. However, the government's funding support to the public universities has dwindled over the years (Atuahene, 2015). It is thus of relevance to examine how the public universities are responding to changes in the funding relationship with the state, in spite of the promise of the following provisions in Article 25(1)c of the Ghana's 1992 constitution which states that *"higher education shall be made equally accessible to all, on the basis of capacity, by every appropriate means, and in particular, by progressive introduction of free education"* and Article 38(1) which also states that *"the State shall provide educational facilities at all levels and in all the Regions of Ghana, and shall, to the greatest extent feasible, make those facilities available to all citizens''.* This study, therefore, explores how the universities have strategically responded to the declining public funding in Ghana.

The objective is to explore and identify how public higher education institutions funding relationship with the state has developed and the strategic choices that are made as a response. Basically, this research draws its significance from the recognition of the overall funding challenges faced by the majority of public universities in Ghana. It is also significant because as an academic study, it will contribute to a better understanding of the

institutional level strategic responses and the various revenue generating strategies of public universities in Ghana. This study will also add to the understanding of how environmental conditions like external funding can influence institutional strategic choices within the enclaves of the Ghanaian public universities. This study could also assist in creating awareness about the financial difficulties being faced by public universities in Ghana and how they are being responded to.

Based on the above considerations and research objectives, the following overall research problem will be addressed in this study:

"How have universities in Ghana responded to changes in their public funding environment?"

The following research questions were also derived from this overall research problem.

- How has the funding relationship between public universities in Ghana and the state developed since 1990?
- What are the main income generating strategies developed and implemented by public universities in Ghana as a response to changes in their funding relationship with the state?

2. Literature Review
2.1. The Concept of Public Funding

Public funding of HE has been variedly defined by various authors to reflect how public universities are financed from the share of the national coffers. Jongbloed & van der Knoop (1999), for example, argue that universities just like any other public institutions need a share of the state's GDP mostly in the form of government grants or loans in order to survive in exchange for educational services. However, the definition most suited to this study is given by Salmi and Hauptman (2006). They assert that public funding of HE or governmental allocation is in two folds. First, is the funding of students through government scholarships and other student loan schemes. Second, is the direct public funding of public institutions meant for specific purposes and educational projects, the funding for teaching and research and block grant funding allocations (Salmi and Hauptman 2006).

2.2. Higher Education Funding

One of the biggest challenges that higher education has faced over the last few decades has involved a dramatic shift from what had long been an automatic assumption, that public institutions will receive their funding from the public purse (El Khawas 2001).

Authors like Michael Shattock, Gareth Williams, Bruce Johnstone, Nick Barr and Ben Jongbloed who have written extensively on HE funding have all come to the realization that HE systems in most countries are facing a decline in financial support from their governments. As argued by Shattock (2003) this phenomenon has encouraged most public universities to develop other revenue generating strategies as a response.

Universities, like any other organization according to Jongbloed & van der Knoop (1999) need a share of the state's GDP mostly in the form of government grants or loans in order to survive in exchange for educational and research services. Government funding in HEIs normally comes in diverse forms either as grants or loans that are usually allotted for operational costs and infrastructural development projects. Jongbloed & van der Knoop (1999) however contend that because HEIs have to compete among themselves and with other fields of society for these limited public funds, they have to react appropriately to the conditions laid upon them by the environment including the state in order to secure their budget. Thus, a major problem that faces the delivery of HE is its funding, with government contributions in many countries on the decline (Altbach, 2007). Many researchers have as a result given varied debates propelling the decreased expenditure in the sector. While some have argued that this is borne by the increasing fiscal pressure on many countries coupled with the increased student participation in higher education (Ahmad et al 2013), others have also torn into the debate of whether higher education is a public good or a private good considering the major private benefits that it bestows on the individual (Altbach, 2007). Others like (Brock-Utne, 2000) have blamed the World Bank for the neglect of HE mostly in developing countries. She explained that the World Bank to some extent views higher education to be a luxury and not a necessity in developing countries and thus encourages national governments to commit more resources to primary and secondary education at the expense of higher education.

Jongbloed (2000) has however outlined some possible policy directions which could be pursued to mitigate the effects of the underfunding of HEIs, especially in developing countries. He posits that universities should be allowed to engage in various public-private partnerships, such as parent-university, university-business, and university-alumni as this could reduce their dependence on public resources. He continued that HEIs should be stimulated to increase their revenue from private sources and also adopt entrepreneurial income generating activities. Another policy option was that universities should control their costs by tracking data on cost and performance as this will enhance cost savings and the accountability of resources. He also advocated for a performance funding mechanism as it enhances the efficiency of resources and completion. Jongbloed again asserted that higher education should be decentralized by the state with greater institutional autonomy given to HEIs to generate their own alternate source of funding and support. Again he advocated for a readjustment of

coordination between HEIs and donors to make aids more effective and efficient. Lastly, he suggested that HEIs should adopt low-cost modes of instructions such as distance learning in order to increase access and generate additional income through tuition fees.

Jongbloed (2000) argued that the key among the policy options suggested was the exploration of non-traditional sources of revenue as well as the enhancement of both financial and managerial autonomy of HEIs. Similarly, studies by Clark (1998) and William (1992) among others have also identified and categorized some income generating strategies adopted by universities in their bid to deal with reductions in government funding. These include the sale of universities goods and services, income generating through research, income from education services provision, and the commercialization of university facilities.

Zhang et al.'s (2016) review of literature on the trends in higher education funding in the last decade has revealed certain patterns of change and policies that has emerged as a result of the reduction in state funding. The first is the deregulation of tuition fees and the marketization of higher education. The UK, for example, in 2009 transferred their department of Education to the Department of Business, Innovation, and Skills. This move geared towards the direction of the market mechanism of the UK education system was a way of increasing revenue to the higher education sector by making it more responsive to student needs (Choi, 2015). This has resulted in increased tuition fees (Zhang et al 2016). Scholars like Vidovich et al. (2007) have also noticed that strategies like the introduction of tuition fees and the commercialization of various HEIs' activities have been adopted in the wake of declining government resources to the sector. Similarly, others like Johnstone (1998) have also suggested a diversified funding source such as the introduction of loans, the encouragement of private tertiary education and lastly the encouragement of entrepreneurial activities by the universities. Many developing countries have thus carried out the policy of "cost sharing" through the charging of tuition fees (Oliver, 2004). Research activities have also been recommended as a way of generating income for higher education institutions as a response to changes in public funds (Gulbrandsen & Smelby, 2005). Commercialization and the marketization of HEIs have thus become a key trend in most higher education systems across the world in recent times.

Another area of reform or change in HE funding has been the deregulation and the branding of HEIs as autonomous public institutions in most part of the world (Zhang et al. 2016). HEIs in Finland, for example, have achieved the status of independent legal entities separated from the state and mandated with the financial freedom to acquire and utilize their own external funding with little government restrictions (Zhang et al. 2016). A similar instance is the case of Japan where the National University Corporation Act introduced in 2004 has given various HEIs leaders the discretionary power and the financial autonomy over their institutions which are now independent public institutions (Hanada, 2013). Australia has also gone along the same tandem with reforms which aims to transform their institutions into corporate entities which follow profits. According to Long (2010), international students in Australia were seen as a potential source of income during that phase of reform (2000–2008). Varghese (2004) and Welch (2007) have argued that institutional autonomy and the financial freedom to control one's own resources are very important for HEIs to adopt strategies that can attract additional funding from private sources. It is therefore difficult for HEIs to adopt strategies of change towards commercialization and private funding acquisition without the necessary autonomy and institutional freedom (Deogratias, Bugandwa & Mungu 2009).

2.3. The Concept of Strategy

Strategy as a concept is important to organisations and thus has been widely studied across many sectors. Chandler defines strategy as '...*the determination of the basic long-term goals and objectives of the enterprise and the adoption of courses of action and the allocation of resources necessary for carrying out these goals*' (Chandler 1962, p. 13). To Porter (1998), strategy is about ways through which organisations try to achieve competitive advantage. Mintzberg (2007) also believes that organisational strategies should be seen as the way organisations engage in somewhat opportunistic transactions with a continuously changing and uncertain environment. Broadly and more adaptive to the focus of this study is the definition by Hofer (1973, p. 3) who states: '*strategy is concerned with the development of a viable match between the opportunities and risks present in the external environment and the organization's capabilities and resources for exploiting these opportunities*'. Accordingly, Ansoff and McDonnell (1990) also describe strategic response as changes in organisations strategic behavior meant to achieve success in a changing environment. Organizational strategies can be considered as tools that help universities manage their organizational processes. Simply put, it can be described as a way of handling the environment **(**Fumasoli and Lepori 2010).

2.4. Higher Education Institutions as Strategic Actors.

The adoption and application of strategy as a tool in higher education continues to divide opinion in the HE literature. This is because; the notion of whether universities by themselves are able to produce their own strategy is not so clear in the discussions of HE literature and that has become a controversial issue to deliberate

upon (Fumasoli & Lepori, 2011). The concept 'strategy' in HE literature is not synonymous only to present times but to the past as well, though its application has been questioned because of the complex and fragmented nature of universities (Musselin 2007). As noted by Bonaccorsi and Daraio (2007), the idea of higher education strategy first emerged in the US HE field between the 1970s and the 1980s as a response to the financial crisis of most American HEIs. They continued further that the notion of strategy as conceptualized in the American context was a peculiar form of university governance which was mainly about the roles and visions of university presidents.

Oliver (1991) and Scott (1995) however generally conceived the concept of strategy as a reaction or adaptation to environmental pressures. Its usefulness to the field of HE as evident in most literature is based on strategic planning and as a business practice transferred to higher education. This, they claimed has garnered many supporters and in equal measure oppositions as well (Maassen and Potman, 1990). Whitley (2008) argues that public universities in recent times have had to mimic some practices and formal structures of business entities and develop strategic autonomy because of the contemporary funding challenges. Whitley (2008), however, advised that the development of strategic autonomy is contingent greatly on the policies of the central government and the availability of resources accessible to the universities. Proponents and advocates of new public management have also pushed for its application in university governance because of its assumed implication for management systems as exhibited mostly in the business field. Others like Krucken and Meier (2006) while considering universities as formal organisations also conceive strategies as a tool for change that can be used by management. Similarly, the strategy has also been considered as an instrument which organisations could use to achieve their desired objectives with limited resources within an increasingly competitive environment (Bonaccorsi and Daraio 2007).

However, the notion of strategic behavior of universities has also been criticized according to Bonaccorsi and Daraio (2007). They argued that universities are partially old institutionalized institutions with weights of tradition which limit their scope for discretionary strategic deliberations. Meyer and Rowan (1977), as well as Zucker (1988), also believe that universities should rather be described as institutionalized organisations than as strategic units. Authors like David W. Leslie have also questioned strategizing in universities because of their loosely coupled nature and how they have been described as specific organisations (Brunsson and Sahlin-Andersson, 2000). He argued further that universities by their nature do not have enough centralized intelligence to impose a standardized strategy throughout their numerous constituents. The slowly evolving nature of universities also inhibits the successful application of strategy according to the institutionalists (Fumasoli & Lepori, 2011). Similarly, various authors have also pointed to the differences between higher education institutions and businesses and have therefore also questioned the successful applicability of a business instrument like strategy to higher education (Van Vught 1989; Schmidtlein and Milton 1989). On the other hand, it has been argued that strategy to some extent does pay off for some organisations in some situations (Huff, Huff, & Thomas, 1992) especially where the organisations' survival is threatened. Universities should, therefore, be perceived as specific and goal-oriented organisations that should be able to make their own strategic decisions and be responsible for them (Krücken & Meier 2006). Gornitzka et al. (2007) however posit that this can be realized only when the universities are given the required autonomy to make those strategic choices within their environment. Whitley (2008) has also given two collective capabilities which universities ought to possess to become strategic actors. He noted that universities first need to have discretionary power over the procurement, use, and disposal of human and material resources. Second, universities also need to generate particular kinds of problem-solving routines and knowledge that are organization-specific (Whitley, 2008).

2.5. Neo-Institutional Theory and Resource Dependency Theory; Convergent and Divergent Foci

Changes in organizational behavior in relation to interactions with its external environment can be approached and understood by both the resource dependency theory (Pfeffer & Salancik, 1978) and the neo-institutional theory (DiMaggio & Powell 1983). The two theories converge at some point which according to Maassen & Gornitzka (1999) is based on the shared assumption that organisations are constrained by external environmental forces which they can only survive when they are responsive to them. To Oliver (1991), these two theories also share similar assumptions about the context of organisational behavior and the motives behind certain organisational actions. She argued that both theories assume that organisational choices are limited by various external pressures emanating from the environment. In addition to that, the survival of organisations depends to a large extent on the way they respond to these external pressures and demands. She concluded that the motives behind organisational behaviours as far as these two theories are concerned are that, organisations are driven by their self-interest and that they seek legitimacy by responding to their institutional environment. These theories have become important in assessing changes in organisations in relation to their institutional environment. The environment is thus important to organizational studies because organisations are invariably embedded in them (Pfeffer & Salanick, 2003).

At the same time, it must be noted that there exist differences in focus and theoretical perspectives between

the resource dependency theory and the neo-institutional theory. Oliver (1991) pointed to the importance of these differences in her characterization of the strategic organizational responses to external pressures. These theories to some extent contrast on the understanding of how organisations respond to their external influences. The differences as pointed out by Oliver (1991) indicate that whilst the neo-institutional theorists stress on the institutional environment, the resource dependency perspective emphasizes the task environment aspect of the environment. She also added that whilst the neo-institutional perspective deals with the conformity and the adherence to norms and institutional beliefs, the resource dependency perspective, on the other hand, focuses on coping with external interdependencies and the management of scarce resources. Their differences are also reflected in the nonchoice behavior and the passive conformance exhibited in the neo-institutional perspective whilst there is active choice behavior, resistance, and manipulation by organisations to external expectations in the resource dependency theory. Lastly, in terms of motives, the neo-institutional theorists believe that organisations seek social fitness and legitimacy, whilst the resource dependency perspective emphasizes on the importance of resource mobilization for organisations (Oliver, 1991).

The importance of the discussion of the convergent and the divergent paths of these two theories serve two purposes. First, the addition of the resource dependency theory to the neo-institutional theory helps to complement the limited perspective on the organisational responses to institutional environment discussed by the traditional institutionalists. Oliver argued further that organisations', strategic respones to pressures from the environment was lacking from the perspectives of the neo-institutional theory. Secondly, the differences in focus of these two theories help to shape or correct the assumption of the nonchoice behavior and the passive conformance of organisations to external pressures traditionally held by the neo-institutionalist perspective (Oliver, 1991).

3.   Research Methodology

This study is centered on an exploratory and qualitative research paradigm aimed at exploring how public higher education institutions in Ghana strategically respond to the institutional funding from the state. Bryman (2012:380) states that ''*qualitative research as a research strategy that usually emphasizes words rather than quantification in the collection and analysis of data''*. Qualitative research methods were chosen because it is appropriate to use it to study human and/ or institutional behavior and behavioral changes which is what this study entails. It must, however, be noted that despite the strengths of qualitative research methods, it also has its own accompanied weaknesses which the researcher was well aware of. Consistent with qualitative research design, a multiple case study approach was also employed using the University of Ghana and the University of Education, Winneba as the units of analysis. A case study entails the "in-depth, qualitative studies of one or a few illustrative cases" (Hagan 2006, p. 240). This helped the cases under review to be studied in a great level of depth.

The population of the study involved university budget officers and a Higher Education coordinator in Ghana. The respondents were selected from three (3) institutions, that is, the University of Ghana, the University of Education, Winneba, and the National Council of Tertiary Education (NCTE). The respondents were purposefully selected from the budget and planning office of each of the organizations identified above. A purposeful sampling technique was used as the main selection criteria to select the four respondents. This sampling technique was adopted because the researcher intended to carefully interview people who were knowledgeable on public university funding in Ghana. Purposive sampling was also used to select the two (2) public universities out of the twelve (12) public universities in Ghana to serve as cases of study. The rationale behind the selection of the University of Ghana (UG) and the University of Education, Winneba (UEW) as relevant cases was to provide the highest probable differences between university funding strategies. These chosen cases are also diverse in terms of their size, year of establishments, funding mix as well as their core institutional mandates**.**

The study employed both primary and secondary data sources. Qualitative data collection instruments such as documents and semi-structured interviews were mainly used in this study. A semi-structured interview was used because, as posited by Bryman (2012), this interview structure suits multiple case study research because they are useful for cross-case compatibility. Face-to-face or in-person interview with participants was the interview format. The interview data were collected from four (4) respondents who constituted the sample of the study. Secondary data were also assessed from published works, online sources and, universities' and governmental documents in public purview. Documents were partly used because of the inadequacy of the interview data as a sole qualitative research method to elicit all required information. Documents collected include financial and budgetary documents of the University of Ghana and the University of Education, Winneba. Strategic plans of the two universities were also reviewed. Some relevant financial policy documents and publications of the National Council of Tertiary Education (NCTE) were also reviewed and analyzed. Education funding policy documents from the Ministry of Education was as well assessed in this study.

The Data analysis was done manually and was grounded on the specified research questions of the study.

To start with, parts of the data analysis were done hand in hand with the data collection and the interview process. This is because field notes and memos were also taken during the interview process. The qualitative data collected during the semi-structured interviews were analysed using qualitative approaches. The data analysis was done based on thematic analysis or approach. Open coding of the interview transcripts was done to create themes out of the frequent issues in order to make meaning from the transcripts of the data collected. Similarly, classified themes were also extracted from relevant documents that were used.

Issues of validity and reliability were the criteria that were used to assess the quality of this research project. Various steps were taken to ensure transparency and also to enable the study to meet the scientific standards of a research study. First triangulation of data from different sources was used to ensure the credibility and accuracy of the data. This was done by complimenting the interview data with documentary data. Respondent validation was also used to improve the accuracy of the data collected from the respondents during the interview process. Finally, ethical issues were complied with by seeking the consent and approval of the leadership of the University of Ghana, the University of Education, Winneba and the NCTE before conducting the study on their premises. Approvals were also sought from the respondents before the interviews were carried out and tape recorded.

4.   Results, And Discussions
4.1. State-Higher Education Funding Relationship Development In Ghana

Higher Education in Ghana before the 1990s was largely free with no tuition fee in addition to government providing for students accommodation (Sawyerr, 2001). Students were as well given allowance to their defray incidental expenses (Chambas 1998). However, changes in the higher education funding started just before the turn of the 1990s.This and the period after led to a number of significant changes in the financing of higher education including the introduction of cost-sharing. In fulfillment of the conditions of the International Monetary Fund (IMF) Structural adjustment program, the government expenditure on HE declined as part of the general cutting down on public expenditure. For example, in 1996, the government provided for only 73.7% of the university's total funding requirement leaving a deficit of 23.3%. The trend of funding cuts continued in 1997 when the government funding further declined to about 61.5% of the total funding needed by the universities and by 1999, the deficit recorded was about 40% (Ghanaweb, 2005). At that time, it had become apparent that the government could no longer fund tertiary education alone especially with regards to the subventions for the payment of students' residential and academic user fees. This led to the introduction of cost-sharing in 1997. Cost sharing was borne out of the infamous Akosombo accord that divided the responsibility of higher education funding between the government (responsible for 70 percent of total funding) and three sources (30 percent) including university internal revenue-generating, private donations, and student tuition fees. This also led to the introduction of student academic and residential facility user fees in 1998. However, it was met with fierce resistance from some students who even embarked on street protests and demonstrations (Ghanaweb, 2005). Statistics given by the then executive secretary of the NCTE in 2000 showed that government budget on higher education was $23,870,359 which represented 12 percent of the total government education budget to all public universities (Atuahene, 2015). With the rising rate of students participation and the increasing cost of education, the problem of higher education financing compounded in 2001/2002 academic year which triggered a threat from the Committee of Principals and Vice Chancellors (CVCPs) to close down the universities or cut enrolments if the situation of funding wasn't brought under control (Ghanaweb, 2015). This in part led to the setting up of the Ghana Education Trust Fund's (GETFund) whose mission was to generate additional income to support the nation's educational system at all levels especially with regards to infrastructural and academic facilities. The GETFund has however faced some challenges with alleged misappropriations (Atuahene, 2015).

Currently, the main funding sources of higher education institutions include the Government, public HEIs, consumers and the private sector (Duweijua and Newman 2014). The two (2) major sources for revenue mobilization for HEIs include public funding which constitutes about 57% of which 99% of it is earmarked for staff emoluments. Second is private funding which makes up for 43% (NCTE Budget 2015). The above development of higher education funding, therefore, shows how the government's funding relationship with the HEIs has changed with the greater burden being put on the institutions and the students. However, it is worth commenting that the pattern of worsened funding relationship between the state and the HEIs in Ghana is not a peculiar case. As reported by the World Bank Edstats (2008) and Jongbloed (2000), this is a trend most evident in many of the developing countries.

As part of the funding development in Ghana, it is also important to discuss how the public funding allocations to the public universities has also evolved. As posited by Jongbloed (2000), there exist four main funding allocation models. These include the negotiated funding, input-based funding, output-based funding, and the student-based funding. Budgeting and funding allocation in Ghana has also gone through a series of gradual developments since the 1990s to its current state which when inferred from literature is much similar to the negotiated funding model as categorized by Jongbloed (2000). According to Newman (2014), the funding

allocation model in Ghana during the 1990s was based on the incremental and negotiated budgeting models where the annual financial requests of the public universities were negotiated with the Ministry of Finance by the then National Council for Higher Education. This mechanism was not based on the volume of activities undertaken by the institutions or national objectives for tertiary education. This prompted the government to reform the allocation model to make it more programme-linked and student based. Norms were then developed as part of the new model which served as standardized input factors with students being the unit of production. This funding model was similar to the student-based funding model classified by Jongbloed (2000). It was however called the norm-based mechanism for budgeting and fund allocation. As indicated by (Newman 2014), this model was later abandoned as the government could no longer meet the increasing cost of education triggered by the increased enrolment of students. For example, the difference between the norm-based costs of higher education and financial allocations made to the institutions by the state was 28.9% in 2005/06 and 23.4% in 2009/10 (Newman 2014). These huge deficits and other factors then led to the breakdown of the norm based model, which resulted in the adoption of the current incremental and negotiated budgeting model. Here, the public universities present their budgetary demands to the NCTE based on various line-items. The analysis of the study data shows that funding allocation is based on the previous year's budget allocated with little variations. This is repeated yearly without regards to the changes in the volume of the activities of the universities. In a nutshell, the funding allocation from the Ministry of Education (MOE) of Ghana is based on biddings and negotiations with regards to the budgetary demands the NCTE has received from the public universities (NCTE, 2016). An account by Bailey, Cloete, and Pillay (2010) also explains that the NCTE normally defends the accumulated budget from the universities at the MoE first, followed by the Ministry of Finance and Economic Planning (MOFEP), and then finally at the Parliamentary Select Committee on Education. Once the budget is approved, the funds are then released to the NCTE for onward disbursement to the universities. Complications have however been raised regarding the negotiated and incremental funding model being used in Ghana.

4.2. Revenue Generating Strategies and other Strategic Responses to Funding Pressures

Whilst public funding decrement poses a significant peril to HEIs, in practice, public universities in Ghana have adopted a range of strategic actions that empower them to reduce their vulnerability. In a bid to understand the actual practices of strategies and other income generating activities adopted by the universities in response to shortfalls in public funding, this study identified from empirical data analysis certain strategic practices common to the case studies. These are explained in detail below.

4.2.1.   Revenue from Educational Services

Generating income from tuition fees is one of the revenue generating strategies identified in the study. This constitutes the highest percentage of their internally generated funds. Both universities, for instance, have had an increment in revenue from tuition fees since the introduction of the cost-sharing and Academic Facilities User Fee (AFUF) in 1997. Similarly, the institutions have also intensified their efforts to attract foreign students who pay much higher and full tuition fees compared to the subsidized fees paid by the local students. Another area of revenue generating was also the introduction of short-term courses for industries, evening courses, and weekend programmes to meet the increased participation and demand for higher education in the country. Both universities have also opened distance satellite campuses in strategic locations through the distance education programme to increase their enrollment and tuition fees. The enrolled students also pay much higher fees than the students enrolled in the normal programmes. A respondent from the UG, for example, stated that tuition fees make up of about 60% of the university's IGF. In addition, both schools have also introduced high demand courses, especially in the business field at high tuition fees. This implies that the universities have taken financial advantage of the high demand for tertiary education which exceeds the supply as posited by Geiger (1991).

4.2.2.   Sales of Goods and Commercialisation of University Activities

Non-traditional revenue sources like the sale of university products and the commercialization of some of the university services were also identified as another strategy adopted by the universities. Some of these activities included the sale of admission forms, renting out of university facilities and halls of residence, operating bookshops, etc. For instance, the University of Ghana has invested in private halls of residence aside from the traditional government buildings which it gives to some of its students at full cost. The school has also built a guest house which is opened to the public. Similarly, a respondent from the UEW also indicated that the university has set up its own printing press and the production of yogurt to generate additional income. Thus, both universities through the commercialisation of their activities and facilities have created opportunities to source internal supplementary income separately from government funding.

4.2.3.   Income from Research Services

Both universities generate extra income from their research activities. This is reflected most in their strategic plans which indicated how boosting and commercializing research activities could earn them additional revenue. The UG, for instance, has established many academic units and research institutes that perform contract research for both the government and non-governmental entities for a fee. Examples of such units are the Institute for

Statistical, Social and Economic Research (ISSER) and the Noguchi Memorial Institute for Medical Research. According to UG's strategic plan, the university intends to build a strong research community that could also attract additional funding to support their administration. One of the interviewees mentioned that the university established the Office of Research, Innovation, and Development (ORID), an administrative research support unit, in 2010 to promote the university's research activities. ORID's mission according to the University of Ghana's research report in 2014/2015 is "to promote, coordinate and facilitate research activities in the University; and also lead the development of the university's strategic plans, including business plan and fund-raising strategies". This office according to the respondent has led to a significant increase in both internal and external funding for the university. For example, according to the UG research report in 2015/2016, funds from research have contributed extensively to the university. The report added that, at the end of the 2014/2015 academic year, the University had signed various research grant agreements with a total value of about USD 52,524,883.11 (UG research report 2015/2016). Some of the major donors the report mentioned included the Bill and Melinda Gates Foundation, DANIDA, DFID, European Union, FAO, IDRC, Leverhulme-Royal Society, NIH, USAID, World Bank (WB), and the World Health Organization (WHO).

The establishment of research management offices was also an adaptive strategy by the universities to generate income from research and consultancy services. This way of generating revenue relates to Clark's (1998) view that most universities engage in intensive research activities often because of revenue.

4.2.4. Autonomy Status Achievement and New Organisational Structures

Achieving institutional autonomy status has also been identified as a key strategy for universities to diversify their income generating activities (Jongbloed, 2004). Just as opined by Jongbloed (2000) in his policy options for resource generating, the decentralization of higher education with greater institutional and financial autonomy was identified in the higher education sector in Ghana. Having institutional autonomy to generate additional income was very important for the universities because as stated by the OECD (2008), income generative activities of universities would not be possible if the government and the regulative frameworks did not allow them to do so. A respondent from the NCTE emphasized the importance of institutional autonomy to revenue generating by stating that

"They (universities) don't have to live by what they are given by the government and because they are autonomous institutions, they can go and look for their own funding elsewhere but that should also conform to the financial administration act of Ghana" (NCTE, 2016).

He stated further that, *"the universities are now by law autonomous institutions and that gives them the right and freedom to go for other additional external funding"* (NCTE, 2016).

This is addressed in Varghese's (2013) assertion that all public universities in Ghana are autonomous and they draw their autonomy and authority from the constitution of Ghana and by their respective laws or acts of parliament that establishes them. This gives them the power among other things to manage themselves and to diversify their sources of funding. The UG, for instance, had its autonomy status strengthened when the University of Ghana Act 2010 was passed by the Parliament of Ghana in 2010. This reform gave the university the power to introduce cost-recovery measures like charging of fees for the services offered by the university (Varghese 2013). Though the state respects the legal autonomy of the public HEIs to manage themselves, they are also subject to the restricted monitoring roles of government agencies like the NCTE. But as revealed by a respondent, the universities have over the years resisted excessive financial scrutiny from government agencies involved. This indicates how much their autonomous status means to them as a legal condition for additional revenue generating. This is reflective of the trend of corporatization and deregulation of HE as posited by Zhang et al (2016) in the last decade. In addition to the universities autonomous statutes that have been enhanced, the universities studied have also established new structures and offices that have enhanced their resources generating activities. Examples include the ORID at the UG and the Externally Funded Projects Office (EFPO) of the UEW which was also set up in 2007 to enhance the university's income from donor-funded projects. This finding is consistent with other studies (Gumport and Pusser 1995; Leslie, 1995) which also identified how new organizational structures are a panacea for generating funding from new sources.

4.2.5. Cost-minimization Strategy

In addition to revenue diversification, analysis from data also show that both the UG and the UEW have adopted the strategy of spending down or prudent financial management through deliberate cost-cutting strategies to cope with the chronic decreased government funding. For example, a respondent from the UEW posited that, as part of the university's effort to cope with the dwindled public funding, the university intends to adopt the best practices in financial management in order not to overspend its budget. He added that the university will continue to implement strategies that will ensure value for money for funds disbursed, (UEW, 2016). Similarly, cost reduction strategies were also mentioned by the UG respondent who explained that the university is making efforts to reduce financial inefficiencies in the system in order to save the institution's already scarce resources. The respondent further explained that in the midst of decreasing public funding, the university has engaged in the strategy of cost reduction. He added that the university now controls or cuts it budget and limits it to the

expected revenue that they anticipate to generate during the year. This he concluded will enhance the judicious management of the university's scarce financial resources both at the central management and the departmental levels (UG, 2016).

The cost reduction strategy identified in the study thus reveals that the universities are adapting to the public funding inadequacy by cutting or adjusting their budget according to their anticipated income. The cost-reduction strategy was thus identified as a management tool for using existing sources of income as efficient as possible.

5. Conclusions

5.1. How has the funding relationship between public universities in Ghana and the state developed since 1990?

Although Ghana's Gross Domestic Product (GDP) has increased over the years, it has not reflected in a good funding relationship with the HE sector. The findings revealed that the HE funding landscape in Ghana has changed from the era of full funding in addition to students living allowances to the introduction of cost-sharing in the 1990s. The results show that, although the government is still the major funder of HE in Ghana, the government's funding mostly cover university staff emolument instead of basing the funding on fees per students charged by the universities. This, therefore, leaves the universities to their fate on their recurrent and capital expenditures. The GETfund set up in 2000 to cater for capital expenditure has also not lived up to its expectation and mandate. Results also showed that, although the percentage of the country's GDP allotted to the HE sector has gone up, it has not matched up with the growth of HE in the last two decades with the expansion of students' participation rate. Practical findings indicated that this has resulted in huge funding gaps that have made the financing of teaching and learning a burden for most public universities in Ghana. One contributing factor identified was the issue of funding allocation model. This has also changed from a norm-based funding model which had the student as the unit of allocation to the current line-item budgeting and incremental approach which according to the study is not based on any specified outcome and real needs of the universities. As the results indicated, a possible major cause for the abandonment of the norm-based model was the expansion in student numbers which the government couldn't meet the accompanying cost as the years went by.

5.2. What are the main income generating strategies developed and implemented by public universities in Ghana as a response to changes in their funding relationship with the state?

In response to the institutional pressures of diminishing public funding, the study finds evidence to support that the universities have employed a number of strategies and other income-generating activities. The results showed that strategies such as the enhancement of Internally Generated Funds (IGFs) through increasing tuition fees, commercialization of research and university activities, sale of educational services and the expansion of distance education and satellite campus were deemed to be very important strategies that have helped the universities to supplement the limited public funding from the government which mostly covers the payment of staff salaries. Cost reduction or cost minimization strategies whereby the universities controlled their cost or aligned their budget to meet whatever funds they are being offered by the government was also identified as an important strategic response. The enhancement of the universities institutional autonomy status by parliamentary acts was also revealed as one major factor that has also helped the universities to somewhat buffer pressure from government funding by empowering them to engage in the income generating activities listed above. The study, therefore, recommends that the autonomy status of the universities should be further strengthened so that they can have more authority and freedom in their financial strategic actions.

The study concludes that, although the universities indulged in these strategic actions, they were somewhat still over-reliant on the limited and unstable government funding which they have no control over thereby affecting proper planning in their teaching, learning and research activities. The results showed that a larger part of the universities strategic actions for revenue generating were deliberately triggered internally by the respective university leaderships where their capacity and influence to generate funding is much stronger relative to securing external funding from the government. These strategic actions were carried out in order to enhance stability and make long-term planning in the universities possible because of the uncertainties and the irregularities associated with funding from the government.

The findings of the various income generating activities and other structural reforms and innovation by the public universities, thus, lead to a conclusion that changes in public funding in Ghana have had an impact on the strategic behaviors and the revenue generating capacities of the public universities studied. This also provides an indication that universities are also strategic actors and that; strategic actions in universities are effective just like in any other corporate organisation.

6. Study Limitations And Suggested Future Studies

A number of limitations were encountered with the study and so it is appropriate that they are brought to the fore.

First, time and capacity constraints limited the study to only two public Universities in Ghana out of about twelve (12) public universities who are also going through similar funding challenges. This represents a small sample. Furthermore, because of time limitation and difficulties in reaching intended interviewees, the researcher was unable to conduct additional planned interviews thereby limiting the study to only four (4) interviews.

The researcher suggests that additional in-depth research is done on the factors that hinder the government's investment in higher education in Ghana and how that could be rectified or improved at best. It would also be interesting to investigate solely the university conditions that enhance or hinder their revenue generating capabilities in Ghana.

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