Journal of Science and Technology, Vol. 44, No. 3 (2026), pp. 76 - 91
Kwame Nkrumah University of Science and Technology (KNUST)
https://dx.doi.org/10.4314/just.v44i3.7

INTERNALLY GENERATED FUNDS FOR FINANCIAL SUSTAINABILITY OF GHANAIAN PUBLIC UNIVERSITIES THROUGH THE LENS OF RDT: UNPACKING THE NUANCES

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ABSTRACT
This study explored Internally Generated Funds (IGF) strategies in two Ghanaian public universities through the lens of Resource Dependence Theory. Using a qualitative multiple case study approach, the research examined two public universities to understand their IGF strategies and effectiveness toward financial sustainability. Data was collected through semi-structured interviews with finance officers and document analysis. The findings reveal five key IGF strategic approaches: student-based revenue strategies, infrastructure monetisation, commercial ventures, external partnerships, and staff-driven revenue generation. While these strategies show promise for reducing dependence on government funding, their implementation faces significant challenges, including regulatory constraints, limited institutional capacity and resource limitations. The study contributes to the theoretical understanding of resource dependency in higher education contexts and provides practical implications for university administrators and policymakers. The findings suggest that successful IGF implementation requires a balanced approach that considers both immediate revenue needs and long-term sustainability goals while maintaining academic quality. This research offers valuable insights for higher education institutions seeking to enhance their financial sustainability through diversified funding sources.

Keywords*:* Funding, IGF, innovative strategies, public Universities, financial sustainability

INTRODUCTION

Higher education continues to be one of the bedrocks of socio-economic development. Unterhalter *et al*. (2020) emphasise the pivotal role of higher education in socio-economic development, suggesting that it not only equips individuals with the necessary skills but also propels societal advancements. However, Salmi (2020) extends this argument by specifically linking higher education to the achievement of the United Nations' Sustainable Development Goals (SDGs). Salmi argues that without the foundational knowledge and skills provided by higher education, efforts towards SDGs such as poverty reduction and economic growth (SDG 1 and SDG 8) would be significantly hampered (Salmi, 2020). This perspective is particularly relevant, as it highlights the broader implications of educational advancements, not just for individual economic benefits, but also for global sustainability goals. The interconnection drawn by Salmi between educational output and sustainable development challenges the traditional view that sees education merely as a pathway to employment, urging a broader conceptualisation that includes its role in societal transformation. This raises a critical question about the adequacy of current educational policies and funding, which are often narrowly focused on immediate economic returns rather than long-term societal benefits.

Despite higher education's pivotal role in socioeconomic development, governments have allocated fewer funds to higher education (Tefera, 2013; Onuoha, 2013; Kwasi-Agyeman *et al*., 2021). Many higher education institutions (HEIs), including those in Ghana have, thus been affected by the decline in state funding and concomitant rising cost of higher education. This is partly attributable to factors such as economic recession and the increasing pressure on public funding (Mensah, 2019; de Wit & Altbach, 2021). The COVID-19 pandemic has also prevented projected increases in education investment in low and middle-income nations (including Ghana) (Al-Samarrai *et al*., 2020). In addition, Al-Samarrai *et al* (2020) believe that general education spending is expected to stagnate in most countries and may even fall in some countries. This was because they thought that some countries would reduce their education funding to make room for other sectors, such as health and social protection.

Given the role higher education plays in development across the globe, and because funding to the sub-sector keeps dwindling, higher education managers are urged to find alternative sources of funding for their activities to cut down on the over-reliance on central governments (Wolhuter & Jacobs, 2021; Ibrahim, 2022). In Ghana, one major means of providing funding for HEIs apart from government sources has been internally generated funds (IGF) (Kwasi-Agyeman *et al*., 2021). In the opinion of Onuoha (2013), IGF become an inevitable and alternative source of funding for tertiary education amid dwindling government support.

In recent years, the financial landscape for HEIs in Ghana has undergone significant changes, prompting a shift in funding strategies. Amidst growing concerns over the sustainability of public universities, the Government of Ghana has issued a directive that underscores the urgency of diversifying funding sources (Kwasi-Agyeman *et al*., 2021). This directive mandates all HEIs to intensify their efforts in mobilising IGF, a move aimed at reducing over-reliance on government allocations, which have been dwindling (Kwasi-Agyeman *et al*., 2021). The directive reflects a broader recognition of the challenges posed by static or reduced public funding, and it aligns with global trends towards enhancing financial autonomy in higher education (Wolhuter & Jacobs, 2021; Ibrahim, 2022). By focusing on internal capacities to generate revenue, the directive seeks to instil a culture of financial self-sufficiency that could shield educational institutions from economic fluctuations and ensure their long-term sustainability.

In spite of the recent Government of Ghana directive for HEIs to intensify their IGF mobilisation efforts, there is a dearth of studies on how Ghanaian public universities' IGF strategies and their effectiveness make them financially sustainable. Consequently, this study employs a qualitative approach to explore the IGF strategies of Ghanaian public universities. This study does not only map the landscape of IGF in Ghanaian public universities but also provides nuanced insight into the IGF strategies and their effectiveness towards financial sustainability of the HEIs.

As this study unfolds, it first presents the objectives of the study and then delves into a literature review that examines existing research on IGF and their role in the financial sustainability of HEIs globally. This review highlights key strategies that have been successful, as well as common challenges faced by HEIs in diversifying their funding sources. Following the literature review, the methodology section describes the qualitative methodology used in this study, including interviews with university finance officers in Ghana. The finding section presents the emerging themes on the current state of IGF mobilisation efforts within the selected Ghanaian public universities, offering insights into both successful initiatives and areas needing improvement. Finally, the discussion section synthesises these findings in the context of the broader literature, proposing actionable strategies for enhancing the financial sustainability of these institutions. The paper concludes with a summary of the findings, implications for policy and practice, and theoretical contribution.

Study Objectives

The objectives of this study are centred on understanding how Ghanaian public universities mobilise IGF and how these efforts contribute to financial sustainability in the higher education sector. Specifically, the study seeks to examine the strategies that the case institutions employ to generate IGF to map out the range of approaches that the HEIs adopt in response to dwindling government support amid their growing financial demands.

In addition, the study aims to analyse the effectiveness and challenges of these IGF strategies in promoting financial sustainability within the Ghanaian public higher education context. This involves identifying both the opportunities and constraints associated with implementing IGF initiatives. By critically assessing these factors, the study provides insights into how the case institutions can strengthen their financial autonomy without compromising academic quality, thereby contributing to policy reforms and strategic decision-making for sustainable higher education financing in Ghana.

Conceptual Review And Theoretical Stance

Conceptual Review

The funding landscape of HEIs has undergone some transformation globally, particularly in developing economies. As Ozili and Arun (2023) and Ibrahim (2022) observe, declining public funding has forced educational managers to seek alternative financing sources. This shift occurs against the backdrop of higher education being the most resource-intensive educational sector, characterised by complex governance structures and substantial capital requirements (Marinoni *et al*., 2020; Ifeanyi *et al*., 2021). The reliance on alternative financing sources raises critical questions about the sustainability of funding models and the potential impacts on the governance of HEIs. As institutions navigate this complex financial landscape, it becomes imperative to critically assess how these changes affect their operational stability and funding strategies. This discussion delves into the specific alternative financing methods being employed and their implications for the future of higher education.

The literature reveals two predominant ideological approaches to higher education funding: government-funded (public) and market-based (liberalised) models (Johnstone, 2006). These models exist along a continuum, with most contemporary institutions adopting hybrid approaches (Lamptey, 1994; Omona, 2012). In the public funding model, governments allocate resources through budgetary mechanisms, providing institutions with operational autonomy. However, this approach faces significant challenges, including delayed fund disbursement, funding shortfalls, budget deficits and donor dependence issues (Boateng, 2002; Omona, 2012). The market-based approach, advocated by scholars such as Oketch (2003) and Shaturaev (2021), emphasises commercial principles in higher education financing. This model promotes institutional self-sustainability, enables student/parent contribution, and facilitates resource generation from multiple stakeholders. However, critics label this approach as "*academic capitalism*", arguing it compromises education's role as a public good (Shore, 2020; Billings, 2021).

Financial sustainability in higher education represents an institution's capacity to maintain long-term financial health while fulfilling its educational mission (Ozili & Iorember, 2024). This encompasses revenue generation adequacy, operational efficiency, resource allocation effectiveness, and infrastructure development capability (Johnstone, 2006; Adams & Simnett, 2011). Montenegro de Lima *et al*. (2020) emphasise that understanding financial sustainability challenges in higher education is more crucial than ever, given factors such as government funding instability, competitive funding priorities, and political influences.

In response to these challenges, IGF has emerged as a critical alternative funding source. Amutuhaire (2022) defines IGF as any efforts aimed at raising funds from alternative sources, particularly from within the HEIs themselves. This includes revenue from school levies, tuition fees, investment income, grants, donations, endowments, and consultancies (Ukpong & Uzoigwe, 2019). Lamptey (2020) further expands this definition to include any income-generating activities that complement government funding. The historical evolution of higher education funding in Ghana provides a compelling case study of these funding transitions. In the post-colonial era, higher education enjoyed substantial government support, with approximately 90% of funding coming from public sources (Teferra, 2007). This period was characterised by free tuition, government-provided accommodation, and student allowances (Sawyerr, 2001). However, the economic crisis of the 1980s prompted significant changes in this funding approach (Woldegiorgis & Doevenspeck, 2013).

The transition to cost-sharing in Ghana's higher education system marked a significant shift from the free education era. This change, introduced in the 1990s, aimed to expand educational facilities while distributing the financial burden between the government and stakeholders (Kwasi-Agyeman, 2020). Johnstone (2003) describes this cost-sharing approach as a strategic shift from exclusive government funding to a shared responsibility model involving parents and students. This transition manifested through various mechanisms, including the introduction of fees in previously free institutions and reduced government financial support.The implementation of cost-sharing, however, faced considerable resistance. Notable protests included the 1999 "*mmobrowa struggle*" (the struggle of the poor), which emerged in response to the introduction of academic facility user fees (AFUF) and residential facility user fees (RFUF) policies (Annan, 2018). These protests highlighted the socioeconomic challenges of implementing cost-sharing in a context where income levels were relatively low (Dadzie, 2009). In spite of these challenges, the cost-sharing model has successfully generated additional funding to supplement insufficient government subventions (Materu, 2007).

A distinctive feature of Ghana's higher education funding model is the "fee-paying students" system. While regular students in public institutions pay only facility user fees, fee-paying students contribute full tuition costs (Swanzy & Potts, 2017). This system operates through a cut-off points mechanism, where highly qualified candidates enter as regular students, while others who meet minimum requirements can enrol as fee-paying students (Adu & Orivel, 2006; Plamper *et al*., 2023). The internationalisation of higher education has further enhanced this funding stream, as international students pay full tuition in foreign currency (Newman & Duwiejua, 2015).

The evolution of Ghana's higher education funding has increasingly embraced public-private partnerships (PPPs) as a crucial component of financial sustainability. Tilak (2010) describes these partnerships as contractual agreements enabling private sector participation in specific educational projects, with shared costs, risks, and benefits. The growth of PPPs in Ghana's higher education sector, particularly in infrastructure development, represents a strategic response to dwindling public funding (Owusu-Manu *et al*., 2020). While these partnerships have successfully provided additional infrastructure such as dormitories and hostels (Bennell, 2022), they also present challenges, including locked-up capital and potential debt overhang for institutions (Kukah *et al*., 2022).

The current revenue diversification era represents the most recent phase in Ghana's higher education funding evolution (Kwasi-Agyeman, 2020). This approach extends beyond traditional cost-sharing to encompass multiple funding streams, including tailor-made programmes, research commercialisation, and consultancy services (Ziderman & Albrecht, 2013). However, Johnstone (2002) raises concerns about the potential distraction from core academic mandates as institutions pursue entrepreneurial ventures. In spite of these challenges, revenue diversification has become increasingly vital amid declining public funding (Atuahene, 2006; Kwasi-Agyemang, 2020).

The establishment of the Ghana Education Trust Fund (GETFund) through Act 581 of 2000 represents another significant development in Ghana's higher education funding landscape. Funded through Value Added Tax (VAT), GETFund has contributed substantially to infrastructure development, scholarships, and research support (GETFund, 2022a). However, the Earmarked Funds Capping and Realignment Act of 2017 limited GETFund's revenue, further emphasising the need for diversified funding sources.

The contemporary landscape of higher education funding in Ghana reflects a complex interplay of traditional and innovative financing mechanisms. As Newman and Duwiejua (2015) observe, the funding matrix now encompasses central government allocations, GETFund contributions, development partner support, IGF, student fees, and private sector investments.

However, Effah (2018) argues that Ghana still requires a more refined funding formula that can foster healthy competition among institutions while rewarding efficiency and effectiveness.

The evolution of student loan schemes further illustrates the ongoing challenges in sustainable higher education funding. The transition from the initial Ghana Commercial Bank scheme to the Social Security and National Insurance Trust (SSNIT) student loan programme, and subsequently to the Students Loan Trust Fund (SLTF), demonstrates continuous efforts to improve financial access to higher education. Despite reforms such as the "no guarantor policy" implemented in the 2021/2022 academic year, these schemes continue to face challenges, including poor loan recovery rates, graduate unemployment, and administrative inefficiencies (Chapman & Lounkaew, 2010).

Al-Samarrai *et al*. (2021) highlight the critical need for improved efficiency in both generation and utilisation of diversified revenue streams. This requires new management approaches prioritising transparency, accountability, and efficiency. As Zumeta *et al*. (2021) note, strengthening the link between educational outputs and inputs becomes increasingly crucial in this context. The literature, thus, suggests that the future of higher education funding in Ghana lies not merely in identifying new funding sources but in developing more sophisticated, integrated approaches to financial sustainability that balance multiple stakeholder interests while maintaining educational quality and access.

This review of literature reveals that while Ghana has made significant strides in developing diverse funding mechanisms for higher education, continued innovation and refinement of existing models remain essential.

The challenge lies in creating a sustainable funding ecosystem that can support quality education while ensuring broader access and institutional stability in an increasingly complex economic environment.

Theoretical Stance

The theoretical foundation of this study is anchored in the Resource Dependence Theory (RDT), first proposed by Pfeffer and Salancik (1978) in their seminal work "*External Control of Organisations: A Resource Dependence Perspective*." This theoretical framework provides a compelling lens through which to examine the complex relationships between HEIs and their external resource environments. The theory's central premise that organisations are not self-sufficient entities but rather interconnected with their external environment, particularly resonates with the current challenges facing higher education funding (Pfeffer and Salancik, 1978). RDT's application to this phenomenon is particularly relevant as it illuminates the intricate power dynamics between HEIs and their resource providers, primarily the government and its agencies. The theory posits that organisations such as HEIs must develop strategic approaches to manage their resource dependencies and reduce uncertainties in their operating environment (Pfeffer & Salancik, 2015). This theoretical perspective is especially pertinent when examining how HEIs navigate their external environments and strategically manage their resource dependencies to ensure their financial sustainability.

Gordon (2022) extends this theoretical framework by emphasising the importance of HEIs understanding the significant influence of external forces on their resource inputs. This understanding becomes crucial as institutions seek to develop strategies for reducing their dependence on external funding sources while maintaining operational effectiveness. The power relationship inherent in resource dependency, as outlined by Pfeffer and Salancik (2015), creates a complex dynamic where HEIs must balance their need for external resources with their desire for autonomy and sustainable operations.

The application of RDT to higher education funding reveals three critical dimensions: the fundamental dependence of HEIs on external environments for crucial resource inputs, the resulting power relationships that emerge from this dependence, and the imperative for HEIs to develop strategies that enhance their independence in pursuing their objectives. This theoretical stance, thus, provides a valuable analytical tool for understanding how HEIs can work towards financial sustainability while managing their external dependencies. The theory's emphasis on organisational adaptation and strategic resource management aligns well with current trends in higher education funding, where institutions increasingly seek diverse funding sources to reduce their dependence on traditional funding streams.

The application of RDT to Ghanaian higher education institutions' IGF strategies offers particularly valuable insights into institutional responses to funding challenges. Through the RDT lens, the pursuit of IGF can be understood as a strategic response to reduce resource dependencies and enhance institutional autonomy. This theoretical perspective helps explain why Ghanaian HEIs are increasingly seeking to diversify their revenue streams beyond traditional government funding sources.

RDT's emphasis on power relationships and resource control is especially relevant when analysing how Ghanaian HEIs navigate their funding environment. As Pfeffer and Salancik (2015) argue, organisations must actively manage their external dependencies to ensure survival and growth. In the context of Ghanaian higher education, this manifests in institutions developing various IGF initiatives, from fee-paying programmes to commercial ventures, as mechanisms to reduce their vulnerability to fluctuations in government funding. This theoretical stance helps explain why institutions that historically relied primarily on government subventions are now actively pursuing alternative funding sources.

The theory's focus on organisational adaptation and strategic response to environmental constraints provides a robust framework for understanding the evolution of IGF strategies in Ghanaian HEIs. Gordon (2022) suggests that organisations must develop mechanisms to ameliorate uncertainties and over-reliance on external forces. This theoretical perspective helps explain IGF strategies in Ghanaian HEIs from simple fee collection to more complex entrepreneurial ventures and public-private partnerships.

Furthermore, RDT's emphasis on the interplay between organisational autonomy and external dependencies offers valuable insights into how Ghanaian HEIs balance their academic missions with financial sustainability imperatives. The theory suggests that organisations must manage these dependencies without compromising their core objectives, a challenge particularly relevant to HEIs seeking to maintain academic quality while pursuing financial sustainability through IGF initiatives.

Having established RDT as the theoretical stance guiding this investigation into higher education funding mechanisms, particularly its insights into how institutions manage external dependencies and pursue financial sustainability, attention now turns to the methodology employed in this study.

MATERIALS AND METHOD (METHODOLOGY)

This study employed a qualitative methodology to explore IGF and financial sustainability in two Ghanaian public universities with pseudonyms *Botan* and *Akyerem* universities to protect the reputation of the universities involved and prevent any unintended negative exposure, given that the study dealt with sensitive financial data (Creswell & Creswell, 2017). This approach allowed for an in-depth examination of how key informants, including university finance officers, construct meaning from their experiences with institutional funding mechanisms (Lincoln & Guba, 1985; Creswell, 2021). This design facilitated a deeper exploration of university-specific approaches to internal funding while enabling cross-institutional comparison in a multiple case study (Hunziker & Blankenagel, 2024). The selection of the two public Ghanaian HEIs was based on their shared focus on science and technology education, similar governance structures, and comparable historical transitions from colleges to university status.

The use of the qualitative methodology also helped to provide depth and context to the study by exploring and understanding the experiences of key informants who are knowledge-rich about the problem (Hunziker & Blankenagel, 2024). Consequently, ten key informants (five from *Botan* and five from *Akyerem* university) were purposively selected based on their roles and expertise in university financial management. Participants included Budget Officers, Final Accounts Officers, College Finance Officers, Internal Auditors, and Treasury Officers from both institutions. The data collection involved semi-structured interviews lasting 30-45 minutes each and document analysis of institutional financial records, including income/cash flow statements, annual budget statements, fee schedules and strategic plans (Flick, 2022).

Data analysis followed Miles and Huberman's (1994) model, involving verbatim transcription of interviews, manual coding, and thematic analysis. Key themes were developed around funding sources, IGF generation strategies, and financial sustainability challenges. The analysis was strengthened through triangulation with institutional financial documents and cross-case comparison (Kiger & Varpio, 2020). The study ensured trustworthiness through Lincoln and Guba's (1985) criteria of credibility, dependability, confirmability and transferability. This was achieved through prolonged engagement with participants, triangulation of data sources, detailed documentation of research procedures, and member checking. Ethical considerations were addressed in the study. In addition, local pseudonyms of *Botan University* and *Akyerem University* have been used to replace the real names of the case universities. Key informants from the two case institutions were also given pseudonyms *ST* and *TU* respectively (Creswell & Creswell, 2017).

RESULTS AND DISCUSSION

The analysis of data revealed five major strategic approaches to IGF in the two public universities. These strategies, while showing promise, face various implementation challenges and regulatory constraints. These themes are presented in this section and discussed in the next section of the paper.

Student-based Revenue Strategies

Student-based revenue strategies emerged as a primary approach to IGF generation. Both institutions rely heavily on fee collection mechanisms and international student recruitment, though with varying degrees of success. As one senior administrator from *Botan University* noted, "the university was investigating reasons for the decline in the university's international student numbers affecting IGF (ST 2)." At *Akyerem University,* an officer stated that, "*we are exploring opportunities to increase international students' enrolment to improve our revenue from student fees*". Also, to enhance fee collection efficiency, both institutions have established specialised units, exemplified by Student Financial Services Offices in the institutions, which aim to "support students to pay their fees" (*Botan University, 2022; Akyerem University*, 2023).

The focus on student-based revenue strategies reveals a common trend among these institutions to diversify their funding sources through student-centred approaches. The establishment of dedicated financial service offices, coupled with strategic efforts to attract international students, demonstrates a systematic attempt to enhance IGF. However, the noted decline in international student numbers at *Botan University* suggests potential challenges in implementing and sustaining this revenue stream. The parallel initiatives at both institutions to improve fee collection mechanisms and boost international enrolment indicate a sector-wide recognition of student fees as a crucial component of financial sustainability in higher education. This approach aligns with global trends in higher education funding, where institutions increasingly rely on student-related revenue to supplement traditional funding sources (Billings, 2021).

The emphasis on student-based revenue strategies also aligns with the market-based approach described by Oketch (2003) and Shaturaev (2021). However, the implementation faces challenges that reflect the tension between market principles and public good considerations identified by Shore (2020) and Billings (2021).

The decline in international student numbers and fee collection challenges demonstrates what Pfeffer and Salancik (2015) describe as the need for organisations to actively manage their resource dependencies. The establishment of specialised units like *Botan University's* Student Financial Services Office represents an institutional response to these challenges, consistent with RDT's emphasis on developing mechanisms to reduce external dependencies. This emerging theme, when examined through the lens of RDT, reveals complex dynamics in the two Ghanaian public universities' pursuit of financial sustainability through IGF strategies.

Infrastructure Monetisation Revenue Strategies

Infrastructure monetisation represents another significant IGF strategy, though its implementation faces considerable challenges. The universities work to maximise returns from their physical assets through facility utilisation and resource sharing. A participant from *Akyerem University* explained, "*my university runs a multi-campus system with infrastructural facilities on all campuses from which we generate revenue* " (TU 1). A *Botan University* participant also intimated that, "*my University sometimes rent out facilities during fallow periods to raise funds for development projects*" (ST 4).

The adoption of infrastructure monetisation strategies reflects these institutions' efforts to optimise existing physical resources for revenue generation. While both universities recognise the potential of their facilities as revenue sources through rentals and resource sharing, particularly during long vacations, the multi-campus structure presents both opportunities and complexities. This approach to IGF demonstrates institutional creativity in leveraging fixed assets, though the phrase "considerable challenges" suggests that implementation may be hindered by factors such as maintenance costs, co-ordination across campuses, or market demand. The strategy represents a pragmatic attempt to maximise return on investment from existing infrastructure, aligning with broader trends in higher education resource optimisation.

The pursuit of infrastructure monetisation strategies reflects the evolution from traditional government funding to more diversified revenue streams, as documented by Kwasi-Agyeman (2020). However, the multi-campus system challenges highlighted by participants demonstrate the complexities of balancing resource generation with institutional mission, a tension that Montenegro de Lima *et al*. (2020) identify as crucial in higher education financial sustainability. This strategy aligns with RDT's emphasis on organisations developing alternative resource channels to reduce dependency on primary funding sources.

Commercial Ventures Revenue Strategies

Commercial ventures constitute the third strategic approach, encompassing production units and business initiatives. However, these efforts often face resource constraints. As illustrated by one participant's observation: "*for lack of seed capital, the water production and bottling company of the university has been on the drawing board for some years now*" (ST 1). Another participant said "*our fruit processing company could not materialise for lack of seed capital"* (TU 4). These reflect the broader challenge of initiating commercially viable projects within academic institutions.

The pursuit of commercial ventures represents an ambitious yet challenging dimension of institutional revenue generation strategies. The case of the stalled water production facility illustrates a common paradox in higher education commercialisation efforts: while universities seek to establish revenue-generating enterprises, they often lackthe initial capital required to launch such ventures successfully. This situation creates a circular problem where institutions need money to make money. The example effectively demonstrates how resource constraints can impede potentially profitable initiatives, highlighting the complex challenges universities face when attempting to operate like business entities while managing traditional academic responsibilities amid limited resources.

The development of commercial ventures, though hampered by seed capital limitations, represents what Ziderman and Albrecht (2013) describe as essential diversification strategies. However, these initiatives face the challenge Johnstone (2002) identifies regarding potential distraction from core academic mandates. This tension exemplifies RDT's central premise about organisations needing to balance resource acquisition with mission fulfilment.

External Partnerships Revenue Strategies

External partnerships, including public-private collaborations and alumni engagement, form the fourth strategic dimension. However, these efforts appear underdeveloped, as evidenced by the observation that *"even though the institution has an alumni association, there seems to be poor engagement that results in weak relationships, making alumni contribute less financially to the university*" (ST 2). Another participant said, "*our alumni association has been dormant, so plans are underway to relaunch it to make it more vibrant"* (TU 3). This suggests significant untapped potential in external partnership development.

The identification of weak alumni engagement and underdeveloped external partnerships reveals a missed opportunity in institutional revenue generation. This finding is particularly significant given that robust alumni networks and PPPs often serve as cornerstone funding sources for universities globally (Al-Samarrai *et al*, 2021). The explicit acknowledgement of poor alumni relationships resulting in limited financial contributions suggests a systemic weakness in relationship management and engagement strategies. This gap is especially noteworthy as alumni and external partnerships typically represent sustainable revenue streams when properly cultivated. The observation points to an urgent need for these institutions to develop more sophisticated stakeholder engagement strategies and relationship management systems to unlock this potential funding source.

The underutilisation of external partnerships, particularly in alumni engagement and public-private collaborations, reflects the broader challenges in Ghana's higher education funding landscape described by Owusu-Manu *et al*. (2020). The findings suggest that while PPPs offer potential benefits, regulatory constraints and weak alumni relationships limit their effectiveness, illustrating what Gordon (2022) describes as the need for HEIs to understand and navigate external forces affecting resource acquisition. The institutions' struggle with external partnerships and alumni engagement directly reflects RDT's core premise that organisations must actively manage their relationships with external resource providers to reduce uncertainty and dependency, though in this case, the universities' weak engagement mechanisms appear to limit their ability to effectively leverage these critical external resource relationships.

Staff-Driven Revenue Strategies

Staff-driven revenue generation also emerged as another IGF strategy but an underutilised strategy. The research reveals limited incentive systems and consultancy frameworks. As one participant noted, "*the ability to generate revenue for the university is not part of the criteria for many positions in the university. This is a disincentive for staff to generate any IGF* (ST 1)." Another participant said "*apart from grantsmanship, IGF is not part of our criteria for promotion"* (TU 2). It also came out that there were significant bureaucratic constraints in IGF mobilisation at the case institutions. This highlights the need for better alignment between institutional revenue goals and staff incentive structures.

The identification of inadequate staff incentivisation for revenue generation reveals a misalignment between institutional financial objectives and human resource management practices. The absence of revenue generation criteria in position requirements (apart from grantsmanship), coupled with limited consultancy frameworks, suggests a systemic failure to harness the intellectual and professional capital of university staff. This disconnect is particularly problematic as academic staff often possess valuable expertise that could be monetised through consulting, research partnerships, or other professional services. This finding points to an opportunity for institutional reform through the development of comprehensive incentive systems that could motivate staff participation in revenue generation. The limited success in this area aligns with RDT's emphasis on internal organisational adaptation to external resource constraints, as discussed by Pfeffer and Salancik (2015).

Implications For Theory And Practice

Theoretical Implications

This study extends RDT's application in the higher education context, particularly in developing economies. The findings demonstrate that RDT's core principles about organisational dependency and adaptation are highly relevant to understanding how public universities navigate financial sustainability challenges. Specifically, the study enriches RDT in three ways. First, it reveals that resource dependency in higher education is more nuanced than previously theorised. While Pfeffer and Salancik's (1978) original framework emphasises binary dependencies, our findings suggest a complex web of interdependencies among government funding, market-based revenues and institutional autonomy. This complexity is particularly evident in how universities must balance regulatory compliance with innovative IGF strategies.

Second, the study extends RDT by highlighting the role of internal organisational dynamics in managing external dependencies. The findings about bureaucratic constraints suggest that internal organisational factors significantly mediate the effectiveness of external resource management strategies, an aspect not fully explored in traditional RDT literature. Third, the study contributes to RDT by demonstrating how institutional legacy and historical context influence resource dependency relationships. The transition from colonial-era full government funding to current market-based approaches shows that historical funding patterns create path dependencies that affect current strategic options.

Practical Implications

The research findings present crucial implications for various stakeholders in higher education management and policy. For university administrators, the priority lies in developing comprehensive IGF strategies that effectively balance immediate revenue requirements with long-term sustainability objectives. This includes creating robust incentive systems for staff participation in mobilising more IGF, investing in professional development of staff in IGF initiatives, strengthening external partnerships, and implementing efficient fee collection systems. In addition, policymakers must focus on reviewing regulatory frameworks to grant universities greater autonomy in IGF initiatives while maintaining accountability, developing clear guidelines for PPPs, and establishing mechanisms for sharing best practices across institutions.

The broader implications for higher education stakeholders emphasise the importance of a balanced approach between public funding and market-based revenue generation. This requires recognising the need for diversified revenue streams while maintaining academic quality and engaging in constructive dialogue about IGF's role in institutional sustainability. Success in implementing IGF strategies ultimately depends on aligning theoretical understanding with practical application, particularly within the unique context of Ghanaian higher education. This necessitates a co-ordinated approach that considers both resource dependency theories and real-world implementation constraints.

CONCLUSION

This study examined the complex landscape of IGF strategies in two Ghanaian public universities through the lens of RDT. The investigation of two major public universities reveals both the potential and challenges of IGF as a pathway to financial sustainability in higher education. The findings demonstrate that while IGF strategies offer promising avenues for reducing dependence on government funding, their implementation faces significant challenges. The five key strategic approaches identified (student-based revenue strategies, infrastructure monetisation, commercial ventures, external partnerships, and staff-driven revenue generation) each present unique opportunities and constraints. The success of these strategies is heavily influenced by regulatory frameworks, institutional capacity, and the broader socio-economic context of Ghana's higher education sector.

A critical insight emerging from this study is the delicate balance the universities must maintain between pursuing financial sustainability through IGF and fulfilling their core academic missions. The research reveals that effective IGF strategies require not only innovative approaches to revenue generation but also careful consideration of institutional values, stakeholder interests and educational quality.

The study's theoretical contribution lies in its extension of RDT to the specific context of higher education funding in developing economies. It demonstrates how universities' efforts to reduce resource dependencies through IGF are shaped by complex interactions between institutional capabilities, regulatory environments and market forces.

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