

From Dependence to Sustainability: Building Resilient Funding Models for Private Christian Universities in Zambia

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ABSTRACT

Private Christian universities in Zambia widen access and offer mission-driven higher education, yet many remain financially fragile because operating income is concentrated in a narrow set of sources, especially tuition and limited sponsor or church support. Anchored in Resource Dependence Theory, this study develops a Zambia-specific resilience model by first diagnosing dependence and vulnerability profiles and then translating the evidence into practical levers for funding stability. A multiple-case design was applied across six private Christian university cases using documentary analysis of institutional financial and enrolment records for 2023–2024, complemented by 28 semi-structured interviews with senior management, finance, admissions, governance, and sponsor stakeholders. Dependence was quantified using revenue composition and concentration metrics, including top-two revenue share and the Hirschman–Herfindahl Index, while vulnerability was assessed through operating margin, cost-to-income ratio, liquidity, tuition arrears, and enrolment sensitivity. The results show a consistently tuition-centred funding structure, with tuition shares ranging from 62 to 88 percent, accompanied by high revenue concentration (top-two share 0.84–0.96; HHI 0.49–0.78). Financial vulnerability is most acute where concentration co-occurs with weak liquidity, thin or negative operating margins, high tuition arrears, and enrolment decline, indicating that cash conversion failures are a principal pathway through which dependence becomes operational instability. The article contributes an evidence-based resilient funding model that integrates portfolio diversification, cash conversion and liquidity discipline, strategic enrolment positioning, governance and stewardship credibility, and cost productivity reforms, supported by a monitoring dashboard of concentration, liquidity, margin, arrears, and retention indicators. The model provides actionable guidance for institutional leaders and councils and highlights policy implications for student financing and the cost structure of compliance in private faith-based higher education.

Keywords: private higher education, faith-based universities, financial sustainability, revenue concentration, tuition arrears, Resource Dependence Theory, Zambia

INTRODUCTION

Private Christian universities in Zambia occupy a space that is both promising and precarious. They exist because communities, churches, and education entrepreneurs have insisted that higher education should be available beyond the limits of public provision, and that learning can be pursued within a clear moral and spiritual vision. Yet these institutions often operate in financially tight environments where a single disruption can threaten teaching continuity, staffing stability, quality assurance compliance, and student support. Across higher education systems, scholars increasingly warn that when institutional income is concentrated in a narrow set of sources, especially tuition and a small circle of sponsors, the result is not only budget stress but structural vulnerability, because revenue shocks quickly translate into operational instability (Mardones & Palacios, 2023). This risk is amplified in institutions that do not enjoy elite status advantages in reputation and market power, because competitive hierarchies shape who attracts students, partners, and external resources, and who remains exposed when enrolments fluctuate (Baltaru, 2022).

In Zambia, financing pressures in higher education have long been discussed through the lens of cost sharing, affordability, and the search for more sustainable funding arrangements (Masaiti & Shen, 2013). While cost sharing debates frequently foreground public universities, they also shape the broader environment in which private institutions recruit, price programmes, and justify value to families who compare fees against constrained household incomes. Private Christian universities therefore compete in a market where price sensitivity is high, student financing options are limited, and tuition arrears can become a routine operational risk. Under such conditions, the financial question is not simply how to raise more income, but how to build a funding architecture that can absorb shocks while protecting mission, quality, and student success.

At the same time, private Christian universities do not pursue income diversification in a value neutral way. Faith based institutions are increasingly affected by “marketization” pressures, where managerial performance logics, branding, and revenue imperatives reshape organisational decision making (Moberg, 2023). The tension is real: institutions may feel pushed to behave like commercial providers to survive, even when their identity calls them to serve, form character, and prioritise long term social value over short term financial gain. Research on Christian inspired universities emphasises that governance choices and institutional identity management matter because faith based institutions must protect coherence in their mission while also ensuring academic freedom and legitimacy within modern higher education norms (Sánchez-Tabernero, 2024). This means that resilient funding models in faith based higher education cannot be reduced to “more money”; they must be designed so that new revenue streams, partnerships, and efficiencies strengthen, rather than dilute, institutional purpose.

A further driver of vulnerability is the rising weight of regulation and quality assurance expectations across higher education systems. Institutions must maintain compliance, documentation, and internal quality processes to retain legitimacy and accreditation standing. Neo institutional theory explains how organisations often become similar over time because regulatory and professional pressures reward conformity to recognised standards (DiMaggio & Powell, 1983). In Zambia, empirical work on quality assurance practices shows that the effectiveness of QA mechanisms depends heavily on staff awareness, training, and institutional support structures, which also implies real cost and capacity demands for institutions operating with lean budgets (Daka et al., 2025). For private Christian universities, quality assurance is not optional; it is the “license to operate” in a competitive and regulated field. Yet compliance is expensive when revenue is unstable and staffing is thin.

This article responds to that practical and scholarly problem by focusing on one central question: How can private Christian universities in Zambia move from dependence on a narrow set of income streams to resilient funding models that can sustain mission and quality over time? The study is grounded in the logic of Resource Dependence Theory, which explains how organisations reduce uncertainty by managing dependence on external actors and by reconfiguring resource relationships to regain strategic autonomy (Hillman et al., 2009). Applied to private Christian universities, this perspective suggests that resilience is built when institutions intentionally reduce over reliance on one payer group, strengthen governance and accountability for credibility, and develop internal capabilities to generate non-tuition income without undermining their educational mandate.

The purpose of this article is to develop an evidence based, Zambia specific model for resilient funding in private Christian universities. The study pursues four objectives. First, it quantifies institutional revenue composition. Second, it determines the level of revenue concentration as an indicator of dependence. Third, it identifies the main drivers of financial vulnerability. Fourth, it formulates a context fit resilience model for funding stability in private Christian universities in Zambia. Prior research indicates that revenue diversification strengthens sustainability when implemented as a deliberate portfolio rather than as isolated income projects (Ngcobo, 2024), and that diversification is commonly pursued to reduce revenue volatility during periods of financial stress (Choi, 2025). This article extends those insights by translating them into a model grounded in the operating realities of Zambia’s private Christian universities.

The significance of the study is threefold. For institutional leaders and councils, it provides a structured approach to moving beyond survival mode toward planned resilience, with clear levers for revenue, governance, and efficiency. For regulators and policy actors, it clarifies why compliance expectations interact

with funding fragility and why supportive financing instruments can protect educational quality rather than merely subsidise inefficiency. For churches, donors, and partners, it offers a transparent basis for investment, showing where support can shift institutions from recurrent bailouts to sustainable capacity building. The remainder of the article reviews relevant literature on resilience and diversification in higher education finance, explains the theoretical framing, presents findings, and advances a proposed resilient funding model tailored to private Christian universities in Zambia.

Existing Zambia-focused scholarship has made valuable contributions by documenting higher education financing pressures through debates on cost sharing, affordability, access, and quality assurance compliance, and by describing the operational constraints faced by institutions as they seek to meet regulatory expectations and sustain academic provision. However, this literature rarely integrates institution-level financial structure evidence with the mechanisms through which dependence translates into vulnerability inside private faith-based institutions. In particular, we still lack studies that combine revenue composition profiles with formal concentration measures, cash conversion realities reflected in tuition arrears and liquidity stress, and governance and stewardship mechanisms that shape whether diversification strategies become stable net income streams or remain fragmented survival projects. This article addresses that gap by providing an evidence-based diagnostic of funding risk in private Christian universities in Zambia, using a structured profile of revenue composition, revenue concentration, and a vulnerability map that links liquidity, operating margins, enrolment sensitivity, and arrears intensity. It then translates this diagnosis into a parsimonious, Resource Dependence Theory-grounded resilience model that specifies practical levers for dependence reduction and proposes measurable monitoring indicators that institutional leaders, councils, and policy actors can use to track progress toward funding stability over time.

LITERATURE REVIEW

Resilient funding has become a central concern in higher education policy and institutional management because financial fragility rarely remains a purely financial matter. It quickly becomes a governance issue, a quality assurance issue, and a student success issue, particularly in systems where institutions are required to expand participation, meet accreditation standards, and sustain credible academic staffing while operating in markets that are increasingly competitive and unpredictable. From this perspective, resilience speaks to an institution's capacity to absorb shocks and adapt without undermining academic standards or compromising institutional mission. Resource dependence scholarship is especially instructive here because it shows that funding structures shape institutional autonomy, planning horizons, and strategic discretion, particularly where critical resources are controlled by a narrow set of external actors (Hillman et al., 2009).

Conceptual clarity is important because the literature sometimes uses sustainability, resilience, diversification, and viability interchangeably, yet they carry different analytical meanings. Sustainability is best treated as a longer-horizon condition in which an institution maintains stable operating margins, adequate liquidity, and a consistent ability to reinvest in quality, staff development, and infrastructure without recurring crisis. Resilience is the shorter-horizon capacity to withstand shocks such as enrolment decline, delayed fee payments, sponsor withdrawal, or rising compliance costs while maintaining core operations. Diversification refers to an intentional reduction in income concentration through multiple revenue streams, but it is not automatically stabilising because additional streams often introduce transaction costs, managerial complexity, and governance demands that can dilute their net benefit. Viability is the minimum condition in which an institution can meet its obligations and keep programmes running, but viability does not necessarily indicate strategic capacity or the ability to improve quality over time. These constructs are commonly operationalised through indicators that capture exposure and coping capacity, including liquidity, operating margin, cost efficiency, and revenue concentration indices. Concentration measures, including those based on the Hirschman–Herfindahl logic widely used in nonprofit finance research, are particularly relevant because they provide a defensible way of estimating dependence and the vulnerability associated with overreliance on a small number of revenue sources (Chikoto, 2016; Le et al., 2021).

Within global higher education finance research, tuition dependence consistently emerges as a key source of vulnerability in contexts marked by demand uncertainty and affordability constraints. Even when tuition is not the only income stream, it often functions as the marginal revenue that determines whether an institution can

sustain staffing, student services, and quality investments. Evidence from tuition policy research indicates that price and affordability signals shape enrolment patterns, especially for students from financially constrained households and for institutions that do not operate within highly selective market segments (Kelchen & Pingel, 2024). Related analyses of quasi-markets in higher education show that competitive pressures and reputational signals influence demand and therefore shape institutional revenue stability and exposure to volatility (Baltaru et al., 2022). This body of work matters for private Christian universities because their student markets are typically more price sensitive and more exposed to shifts in household capacity, sponsorship patterns, and perceptions of value, conditions that can translate quickly into cash flow stress and deferred investment in quality.

Diversification is frequently proposed as a remedy, but peer-reviewed evidence presents a more conditional argument than policy rhetoric sometimes suggests. Studies in higher education finance report that revenue diversification is often associated with improved financial outcomes, particularly where it reduces dependence on a single dominant stream and increases buffering capacity in downturns (Jaafar et al., 2023; Le et al., 2021). At the same time, nonprofit finance research cautions that diversification must be interpreted carefully because it can reduce vulnerability or, alternatively, introduce complexity that overwhelms managerial capacity, particularly where new streams require unfamiliar capabilities or carry hidden cost commitments that reduce net income (Chikoto, 2016). The most defensible conclusion from this literature is that diversification contributes to resilience when it functions as a coherent portfolio aligned with institutional strategy and capability, rather than a set of disconnected income projects that respond to short-term pressure but do not meaningfully reduce revenue concentration or stabilise net cash flows.

For private Christian universities, the financing question is inseparable from mission and governance because faith-based institutions operate under an additional legitimacy contract. They must satisfy regulator expectations and professional academic norms while also meeting expectations related to moral formation, community service, and identity coherence associated with Christian higher education. Scholarship on Christian-inspired universities shows that governance must continually negotiate identity coherence alongside academic freedom, institutional credibility, and public legitimacy (Sánchez-Tabernero, 2024). Work from Southern Africa further suggests that efforts to reconcile Christian commitments with market logics can generate distinctive tensions around stewardship, institutional purpose, and the meaning of sustainability, particularly when private providers adopt commercialised practices without sufficient governance clarity and mission safeguards (Diedericks, 2019). These tensions have direct funding consequences. Mission inconsistency can weaken trust among churches, alumni, donors, and communities, and trust functions as a financial asset because it underpins giving, partnership formation, and reputational advantage. This makes mission drift not only a moral risk but a strategic risk, especially in markets where institutional identity differentiates providers and influences stakeholder support (Bruder, 2025).

Zambia's policy and regulatory environment shapes private Christian university funding not only through rules, but through the cost structures those rules imply and the financing instruments they do or do not make available. The Higher Education Act establishes the legal basis for registration, regulation, and quality assurance oversight across the sector, including private providers (Republic of Zambia, 2013). The Quality Assurance System Regulations further formalise compliance expectations that require sustained administrative and financial commitment (Republic of Zambia, 2016). The Zambia Standards and Guidelines for Quality Assurance articulate institutional requirements across governance, staffing, learning resources, and internal quality systems, which in practice translates into recurrent expenditure obligations for documentation, audits, staffing adequacy, and learning environments (Higher Education Authority, 2021). The policy implication is that compliance costs behave like fixed or semi-fixed costs. They do not reduce easily when enrolment declines. Under tuition-dependent conditions, this increases the likelihood that institutions become locked into a cycle in which tuition dependence deepens precisely because the cost base is compliance-heavy and difficult to flex. The higher-impact policy question, therefore, is not whether regulation is necessary, but whether the financing environment provides realistic pathways that allow private providers to meet compliance and quality requirements without being pushed toward short-term revenue decisions that compromise access, mission, or academic depth.

Student financing conditions intensify this dynamic. Zambia's experience with cost sharing reflects fiscal constraints and the persistent tension between sustainability and affordability, raising enduring debates about equity and participation (Masaiti & Shen, 2013). Regionally, higher education finance scholarship in Sub-Saharan Africa describes a structural dilemma in which demand for higher education expansion outpaces the financing mechanisms needed to sustain quality and equitable access (Oketch, 2023). Student loan systems can reduce tuition barriers, but their coverage, design, and institutional eligibility rules shape whether private institutions experience stable enrolment and manageable arrears or continued volatility. When loan coverage is limited or inconsistently accessible across providers, the effect is to reinforce tuition dependence, increase exposure to arrears and attrition, and weaken planning predictability for private institutions serving lower-income households (Higher Education Loans and Scholarships Board, n.d.). This strengthens the argument that funding resilience cannot be treated as an internal management problem alone. It is partly produced by policy design choices that shape affordability pathways, demand stability, and the feasibility of sustaining quality under regulation.

Despite a robust international literature on diversification and sustainability, what remains insufficiently established is how these dynamics interact at institutional level within faith-based private higher education in Zambia. The first gap is empirical and institutional. There is limited Zambia-focused evidence that integrates institution-level financial profiles, such as liquidity and revenue concentration patterns, with governance and stakeholder accounts that explain why some revenue strategies mature into stable net income while others remain small, volatile, and costly. The second gap is contextual and comparative. Much of the diversification literature draws from public universities or systems with mature philanthropic ecosystems and strong research funding markets, limiting direct transferability without contextual modelling and institutional diagnosis (Le et al., 2021; Jaafar et al., 2023). The third gap is sector-specific and architectural. Faith-based higher education research explains mission, identity, and governance tensions well, but it less often specifies the financing architecture and accountability mechanisms required to sustain diversification while protecting mission integrity (Sánchez-Tabernero, 2024; Diedericks, 2019). The fourth gap is policy-analytic. Zambia's regulatory framework is often described rather than analysed in terms of what it implies for cost intensity, tuition dependence, and resilience options for private providers under affordability constraints (Higher Education Authority, 2021; Republic of Zambia, 2016). These gaps justify the contribution of this article, which is to develop an evidence-based, Zambia-fit model for resilient funding that is anchored in dependence reduction and framed to speak directly to governance practice and policy design.

Theoretical and Conceptual Framework

This study is anchored in Resource Dependence Theory because it offers a direct and parsimonious explanation for why private Christian universities can become financially fragile and how they can strategically move toward resilience. Resource Dependence Theory holds that organisations are constrained by external actors who control critical resources, and that dependence increases vulnerability by reducing autonomy and exposing the organisation to shocks originating outside its control (Hillman et al., 2009). In the context of private Christian universities in Zambia, dependence is most visible where tuition fees, sponsor-funded students, and periodic church subsidies constitute the dominant share of income. Under such conditions, financial stability becomes highly sensitive to changes in enrolment, household affordability, donor priorities, and policy conditions that shape student financing. Dependence is therefore not merely a budgeting pattern. It is a structural condition that influences institutional decision-making, planning horizons, and the capacity to invest consistently in quality.

Resource Dependence Theory also clarifies why diversification is not simply a growth strategy but a resilience strategy. Institutions diversify to reduce uncertainty, lower exposure to a single funding stream, and regain strategic discretion. In private Christian universities, diversification may involve expanding non-tuition income through short courses and micro-credentials, income-generating units, consultancy and research services, facility rentals, alumni giving, and structured partnerships with churches, industry, and international collaborators. However, the theoretical point is that diversification has value only when it reduces concentration in a meaningful way and improves the institution's capacity to negotiate resource relationships with external stakeholders. When diversification remains fragmented, low-yield, or weakly governed, dependence remains largely unchanged and vulnerability persists. Resilience, in this study, is achieved when

revenue concentration declines and when resource relationships are managed through credible stewardship that strengthens confidence among funders and partners.

Guided by this theory, the conceptual model links dependence, strategic responses, and resilience outcomes. Dependence is represented by the institution's revenue concentration profile, especially the proportion of income derived from tuition and other dominant sources. Strategic responses are represented by institutional actions designed to reduce concentration, including diversification of income streams, strengthening of partnership networks, and improvements in financial governance and accountability that build credibility with funders and stakeholders. Resilience outcomes are represented by observable indicators of financial stability, including improved liquidity, stronger operating margins, reduced revenue concentration, and greater stability of net tuition revenue under enrolment fluctuations. The model assumes that institutions with higher dependence exhibit greater vulnerability, and that institutions that intentionally reduce dependence through coherent diversification and credible stewardship demonstrate stronger resilience over time.

To guide the analysis with a clear theoretical logic, three propositions are advanced. The first proposition is that higher revenue concentration increases financial vulnerability because dependence on dominant funders or fee markets intensifies exposure to shocks and reduces strategic discretion (Hillman et al., 2009). The second proposition is that diversification improves resilience only to the extent that it reduces revenue concentration and produces reliable net income streams rather than sporadic gross revenue. The third proposition is that governance and accountability strengthen resilience because credible stewardship expands the institution's ability to access alternative resources, deepen partnerships, and sustain stakeholder confidence over time. Together, these propositions provide a compact theoretical basis for examining dependence patterns, interpreting institutional responses, and developing a Zambia-fit resilient funding model for private Christian universities.



Figure 1. Resource Dependence-Based Model for **Funding Resilience** in Private Christian Universities in Zambia.

Note. The model illustrates how private Christian universities can reduce revenue concentration through strategic diversification, partnerships, and governance mechanisms to achieve financial resilience.

This theoretical framing and literature synthesis directly inform the methodological choices and analytical strategy adopted in this study. Because the central concern is dependence and the practical pathways through which institutions reduce vulnerability, the study is designed to capture both the structural funding profile of private Christian universities and the institutional processes that shape strategic responses. In particular, the analysis is guided by the propositions that revenue concentration heightens vulnerability, that diversification strengthens resilience only when it reduces concentration and generates reliable net income, and that governance and accountability expand access to alternative resources through credibility and strengthened stakeholder confidence. The next section therefore presents the research design, study sites, sampling approach, data sources, and analytical procedures used to generate evidence that can support a context fit resilient funding model for private Christian universities in Zambia.

METHODOLOGY

Research design and approach

This study adopted a multiple case study design with embedded financial profiling to examine how private Christian universities in Zambia experience revenue dependence and how dependence translates into financial vulnerability. A case study approach was appropriate because the study sought explanation of institutional conditions and decision processes in real-world contexts rather than variable isolation under controlled settings (Yin, 2018). Six private Christian universities were purposively selected to capture variation in funding structure and operational stability while remaining within the same faith-based private provider category. Institutions were eligible if they had an explicit Christian identity through ownership, sponsorship, or governance affiliation, operated legally under Zambia's higher education regulatory environment during the study period, had at least three years of continuous operation, and could provide at minimum two consecutive years of institutional records to support ratio-based profiling and cross-case comparison.

Data collection was conducted between July and September 2025, and the quantitative financial profile covered two consecutive financial years, 2023 and 2024. Evidence was drawn from institutional documents and semi-structured interviews. The document set comprised 12 annual financial statements or audited accounts (two years per institution), 12 approved budgets, 6 fee schedules, 12 enrolment reports (two years per institution), and 6 strategic plans, supported where available by 6 internal reports related to income generation initiatives and quality assurance compliance costs. Interviews were conducted with role-holders directly responsible for financing decisions and governance oversight. The achieved interview sample consisted of 6 principals or vice chancellors, 6 finance officers or bursars, 6 registrars or admissions leads, and 6 council or board representatives, supplemented by 4 sponsoring church or external stakeholder representatives, giving a total of 28 interviews. Role-based purposive sampling was used to ensure information-rich accounts of dependence conditions, diversification choices, cash-flow constraints, and accountability practices (Palinkas et al., 2015). Interviews followed a guide aligned to the conceptual model, were audio recorded with consent, transcribed verbatim, and de-identified for reporting.

Financial profiling operationalised dependence and vulnerability using indicators derived from documentary records. Revenue composition was expressed as category shares of total operating income. Revenue concentration was estimated using two indicators: the top-two revenue share and the Hirschman–Herfindahl Index computed from revenue shares. Operating margin was calculated as operating surplus or deficit divided by total operating income, and the cost-to-income ratio as total operating expenditure divided by total operating income. Liquidity was assessed using the current ratio defined as current assets divided by current liabilities in cases with complete balance sheet data. Where balance sheet information was incomplete, a liquidity proxy was computed as (cash and cash equivalents plus short-term receivables due within 90 days) divided by current liabilities, using the institution's finance schedules and supporting statements. The current ratio was computed for four cases, while the liquidity proxy was used for two cases, and all liquidity results were labelled accordingly to preserve interpretive transparency. Enrolment sensitivity was assessed using year-to-year enrolment change over the same two-year profiling window.

Qualitative evidence was analysed using thematic analysis, moving from initial coding to higher-order themes aligned to the Resource Dependence framing, particularly dependence conditions, vulnerability mechanisms, and strategic responses (Braun & Clarke, 2006). Quantitative and qualitative evidence were integrated using joint displays that aligned each institution's financial profile with dominant themes and explanatory accounts, enabling interpretation of how measured dependence and cash conversion pressures interacted with governance routines and strategic choices. Trustworthiness was strengthened through triangulation across documents and interviews, corroboration across role groups within each case, member checking focused on factual accuracy of case profiles, and an audit trail of protocols, coding memos, and analytic decisions (Yin, 2018; Braun & Clarke, 2006). Ethical safeguards were applied due to the sensitivity of institutional financial information, including institutional permissions, informed consent, de-identification of institutions and participants, secure storage of files, and reporting practices that avoided attributing financially sensitive statements to identifiable organisations or individuals.

Ethical safeguards were applied throughout because institutional finances and governance practices are sensitive and may carry reputational and operational risk. Institutional permissions were obtained prior to data collection, and all participants provided informed consent. Confidentiality was protected through de-identification of institutions and participants in transcripts and reporting. Financial documents were stored separately from interview data, and digital files were access-restricted and securely stored to reduce disclosure risk. Findings were reported in an aggregated and anonymised manner that preserved analytical meaning while avoiding attribution of sensitive statements to identifiable individuals or institutions.

RESULTS AND DISCUSSION

This section presents the results and then discusses them in relation to Resource Dependence Theory, which explains how reliance on a narrow set of external resource controllers increases vulnerability and constrains institutional discretion (Hillman et al., 2009). Results are organised by the study objectives. In each subsection, the empirical patterns are reported first using tables and explicit values, followed by a theory-informed discussion supported by the literature.

Objective 1: To quantify revenue composition and establish dependency profiles

Figure 1 summarises the revenue composition of the six institutional cases, expressed as proportions of total operating income. The figure distinguishes tuition and fees, sponsor or church support, and non-tuition income. Presenting income in percentage terms allows direct comparison of funding structure across cases, regardless of differences in institutional size.

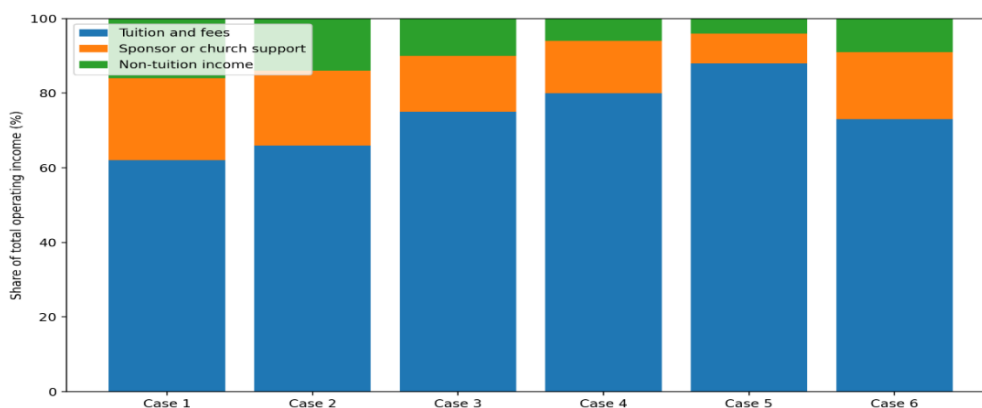


Figure 1 indicates a consistently tuition-centred funding structure across all cases. Tuition and fees constitute the largest share of income in every institution, ranging from 62 percent in Case 1 to 88 percent in Case 5. Sponsor or church support is the second-largest income stream, ranging from 8 percent in Case 5 to 22 percent in Case 1. Non-tuition income, which includes sources such as short courses, rentals, enterprise activities, and consultancy, remains comparatively small across the portfolio, ranging from 4 percent in Case 5 to 16 percent in Case 1. The figure therefore highlights both the dominance of tuition revenue and the limited scale of alternative income streams in most cases.

Two structural patterns are evident. First, cases with higher sponsor or church support and higher non-tuition income display lower tuition shares, as seen most clearly in Cases 1 and 2. Second, the most tuition-dependent cases, especially Case 5, combine the smallest non-tuition contribution with the smallest sponsor or church support, indicating a narrower and more fragile revenue base. The figure shows that diversification exists in principle across the institutions, but in most cases, it has not yet reached a level that would materially shift the revenue structure away from tuition dependence.

The revenue composition patterns in Figure 1 should be understood as the first layer of the study's financial profiling strategy. As specified in the methodology, revenue shares were derived from institutional financial records and expressed as proportions of total operating income to enable cross-case comparison. This approach is analytically important because it distinguishes the structural nature of dependence from the absolute size of institutional budgets. In other words, even where institutions differ in scale, the share distribution reveals

whether income is concentrated in a narrow base or supported by multiple streams. The figure therefore provides the empirical foundation for classifying dependency profiles before moving to formal concentration indices and vulnerability drivers in the subsequent objectives.

Interpreted through Resource Dependence Theory, the tuition-centred structure shown in Figure 1 signals a dependence condition rather than a neutral accounting pattern. Resource Dependence Theory holds that organisations become constrained by external actors who control critical resources, and that high dependence reduces autonomy and increases exposure to shocks originating outside the organisation's direct control (Hillman et al., 2009). In this study, the dominant resource controller is the fee-paying market, which is shaped by household affordability, enrolment volatility, competition, and the reliability of fee collection. Where tuition comprises the largest portion of income, the institution's planning horizon and investment capacity become sensitive to shifts in demand and payment behaviour. This has practical consequences for staffing stability, student support services, and the ability to fund quality assurance requirements, which tend to persist even when revenue is unstable.

The limited scale of sponsor or church support and non-tuition income strengthens this dependence interpretation. Although sponsor or church contributions are present across cases, the figure shows that they are not consistently large enough to function as a stabilising buffer. Non-tuition income streams, including short courses, rentals, enterprise activities, and consultancy, remain relatively small. This is consistent with the wider higher education finance literature showing that tuition dependence becomes a sustainability risk in contexts where enrolment is demand-sensitive and affordability constraints are strong, and where alternative revenue streams are not mature enough to offset volatility (Baltaru et al., 2022; Kelchen & Pingel, 2024). It also aligns with evidence from nonprofit finance that diversification reduces vulnerability only when it materially shifts the revenue structure, rather than when it exists as small, fragmented additions that do not alter the dependence profile (Chikoto, 2016; Le et al., 2021).

The cross-case patterns in Figure 1 also carry an important interpretive implication that is central to the study's conceptual logic. Cases 1 and 2 demonstrate that lower tuition shares are associated with higher sponsor or church support and higher non-tuition income. This pattern is consistent with the idea that resilience begins when the institution expands its resource channels and reduces the dominance of a single stream, thereby strengthening its discretion and bargaining position (Hillman et al., 2009). By contrast, Case 5 illustrates the most fragile profile, where tuition dependence is highest and both sponsor or church support and non-tuition income are smallest. The implication is that vulnerability is not only a function of "low revenue" but of a narrow revenue architecture that leaves the institution exposed to one primary source. This distinction is important because it shifts the conversation from short-term fundraising to structural redesign of funding portfolios.

These results also sharpen what we still do not know and therefore motivate the next analytical steps in the article. While Figure 1 establishes that tuition dominance is common across cases, it does not yet indicate the precise degree of dependence risk in a way that can be compared to clear thresholds or tracked over time. That is why Objective 2 moves from descriptive composition to revenue concentration measurement. In addition, the figure alone cannot explain why certain institutions have been able to develop relatively larger non-tuition streams while others remain narrowly fee-dependent. That explanatory question is addressed later through the vulnerability driver analysis and the integration of documentary patterns with governance and management accounts. In terms of literature gaps, the figure responds to a common limitation in existing work on faith-based and private higher education in similar contexts, where discussions of sustainability are often conceptual or normative and less frequently anchored in institution-level revenue structure profiles that allow systematic comparison (Le et al., 2021). The empirical value of this objective is therefore that it establishes a measurable baseline for dependence within Zambia's private Christian higher education sector.

The implications of the revenue composition findings are direct for institutional leadership and for stakeholders who influence resource flows. For institutional councils and management, the evidence supports the need to treat tuition dependence as a strategic risk that must be managed through deliberate portfolio development, strengthened fee collection systems, and disciplined growth of reliable non-tuition income. For church bodies and sponsors, the findings imply that episodic support cannot substitute for structured

sustainability mechanisms, particularly where institutions face recurring fixed or semi-fixed obligations linked to quality assurance and staffing. For donors and partners, the results suggest that investments are likely to have higher leverage when they support capability building for revenue diversification and financial governance rather than once-off gap filling. Finally, for policymakers and regulators, the findings indicate that private Christian universities operate within a dependence architecture that makes them particularly sensitive to affordability and enrolment shocks, which has implications for system-level financing mechanisms and the design of student support pathways.

While Figure 1 establishes that tuition and fees dominate the revenue base across the cases, revenue composition alone does not fully quantify dependence risk. In line with the methodology, the next step is to convert the observed revenue shares into concentration metrics that capture how strongly institutions rely on one or two sources. This shift is analytically important because dependence is a structural condition, not merely the presence of tuition income, and concentration measures provide a comparable indicator of vulnerability across institutions. Objective 2 therefore estimates revenue concentration using two indicators, the top-two revenue share and the Hirschman–Herfindahl Index, to describe the level of dependence with greater precision.

Objective 2: To determine the level of revenue concentration as an indicator of dependence

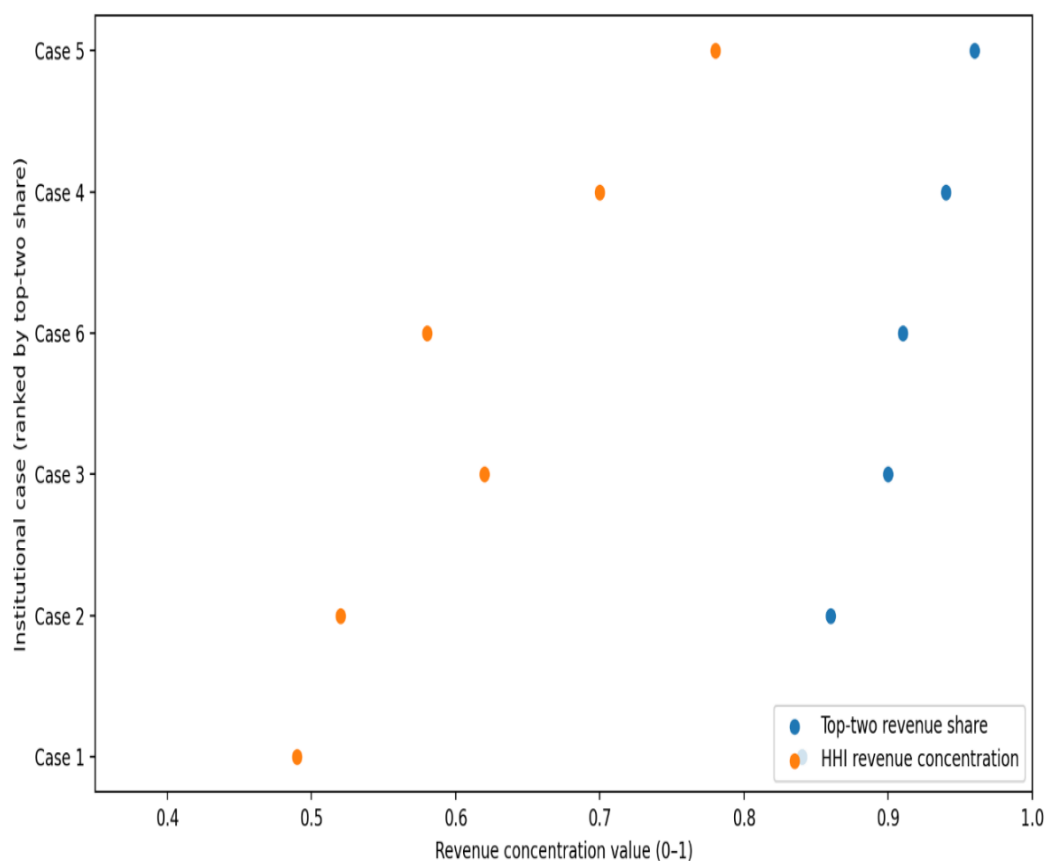


Figure 2. Revenue concentration by case using two indicators

Figure 2 presents revenue concentration across the cases using two indicators derived from the documented revenue shares. The first is the top-two revenue share, defined as the combined proportion of total income accounted for by the two largest revenue streams. The second is the Hirschman–Herfindahl Index, computed as the sum of squared revenue shares. Together, these indicators quantify dependence more directly than composition alone because they summarise how narrowly institutional income is distributed across sources.

Figure 2 reports revenue concentration for each case using two indicators derived from the revenue shares documented in institutional records. The first indicator, the top-two revenue share, ranges from 0.84 to 0.96 across the six cases. The lowest concentration levels are observed in Case 1 (0.84) and Case 2 (0.86). The

highest concentration levels are observed in Case 4 (0.94) and Case 5 (0.96). The remaining cases fall within the high concentration range, specifically Case 3 (0.90) and Case 6 (0.91).

The second indicator, the Hirschman–Herfindahl Index, ranges from 0.49 to 0.78. The lowest HHI values are observed in Case 1 (0.49) and Case 2 (0.52). The highest HHI values are observed in Case 5 (0.78) and Case 4 (0.70). The intermediate cases record Case 6 (0.58) and Case 3 (0.62).

Taken together, the two indicators show a consistent pattern. Cases with lower top-two concentration also record lower HHI values, while cases with higher top-two concentration record higher HHI values. The figure therefore indicates that most cases rely heavily on one or two revenue streams and that the strength of this dependence varies across institutions, with Cases 4 and 5 showing the narrowest revenue base.

The purpose of this objective was to move beyond revenue composition and quantify the degree of institutional dependence in private Christian universities by estimating revenue concentration from documented revenue shares. The main takeaway is that most cases exhibit a structurally narrow income base, meaning that institutional sustainability is exposed to shocks affecting one or two dominant resource channels. In practical terms, the concentration pattern signals that resilience cannot be pursued effectively through isolated income initiatives that do not shift the overall revenue structure. It must be pursued through deliberate dependence reduction that is visible in concentration metrics.

Interpreting these findings, the concentration results indicate that the central financial risk for many private Christian universities is not simply that tuition is important, but that the overall revenue portfolio is shaped by a small number of sources that behave as the institution’s financial “control points.” When those sources weaken, the institution has limited buffering capacity. Concentration therefore captures a structural constraint that shapes what the institution can do, when it can do it, and how quickly it must respond to external pressures. This matters for institutions operating in fee-sensitive markets, because the tuition stream is simultaneously a dominant resource and a volatile one. The implication is that high concentration increases sensitivity to enrolment changes, household affordability pressures, and fee collection delays, and it may push institutional decision-making toward short-term survival choices rather than long-horizon investment in quality and mission.

The results are consistent with what revenue concentration has meant in the wider sustainability literature, where concentration is treated as a vulnerability indicator because it reflects overreliance and limited financial flexibility (Chikoto, 2016; Le et al., 2021). The findings also align with higher education market research showing that demand sensitivity and affordability conditions can influence revenue stability, particularly where institutions depend heavily on tuition flows (Baltaru et al., 2022; Kelchen & Pingel, 2024). What this study adds is a Zambia- and faith-based specific translation of those general claims. It shows how reliance on tuition and a small sponsor or church base can appear “normal” as a business model while functioning as a structural dependence condition that can constrain institutional autonomy and deepen vulnerability over time.

Some readers might expect the two concentration measures to produce inconsistent conclusions. In this analysis, they converge in direction, but not perfectly in ranking. That mixed pattern is not a weakness. It reflects a known measurement reality: the top-two share captures dominance by the two largest streams, while HHI is more sensitive to how the remaining streams are distributed. A case can have a similar top-two share as another case but a different HHI if its residual income is spread across more small streams rather than concentrated in one small stream. The practical implication is that reliance on a single concentration measure can oversimplify risk, whereas using two measures provides a more credible view of dependence structure. This methodological choice strengthens the argument that concentration should be treated as a portfolio property rather than as a single-number label.

The concentration findings speak directly to Resource Dependence Theory and strengthen its explanatory value in this context. Resource Dependence Theory holds that organisations are constrained by external actors who control critical resources and that dependence increases vulnerability by reducing autonomy and exposing the organisation to shocks outside its control (Hillman et al., 2009). In this study, high revenue concentration is the measurable signature of that dependence condition. It indicates that a small set of external channels,

especially the student fee market and sponsor or church-linked support, has disproportionate influence on institutional stability. At the same time, the findings refine the theory in a way that is meaningful for private Christian universities. Dependence here is not only relational in the abstract. It is visible in financial architecture, and it is amplified by the moral and reputational stakes that come with faith-based identity, which can limit the range of acceptable commercial responses even when revenue pressure increases. This suggests that strategies to reduce dependence must be mission-compatible and governance-credible, or they risk trading financial vulnerability for legitimacy vulnerability.

The implications of these findings are immediate for practice, policy, and research. For institutional leadership and councils, concentration metrics should become routine dashboard indicators alongside enrolment and cash flow. Institutions should set explicit portfolio targets, such as reducing top-two concentration over defined time horizons, and should evaluate diversification initiatives by net contribution and their ability to shift concentration rather than by the number of projects launched. For church bodies and sponsors, the findings imply that episodic support will not materially change dependence unless it is structured, predictable, and linked to transparent accountability systems that strengthen confidence and enable longer-term planning. For policymakers and regulators, the results suggest that heavy reliance on tuition in private provision makes the sector particularly sensitive to affordability constraints. This matters for financing policy choices, such as student loan eligibility, scholarship windows, and incentives for non-tuition income development, because system-level design can either reduce or reinforce dependence pressures.

The interpretation should be read with limitations in mind. The number of cases is small, and concentration estimates depend on the quality and comparability of institutional financial records and revenue categorisation. Where revenue streams are grouped broadly in institutional accounts, concentration measures may understate the diversity that exists within categories. The analysis is also cross-sectional or short-horizon in this illustration and does not yet establish how concentration changes over longer periods or how shocks translate into outcomes such as staffing instability or quality decline. These limitations do not invalidate the findings, but they mean that the results should be treated as a structured diagnosis of dependence patterns rather than as final causal claims about performance.

Recommendations that follow directly from this objective are therefore appropriately focused. Institutions should institutionalise concentration reporting, adopt portfolio-level diversification planning, and prioritise scaling a smaller number of mission-aligned non-tuition streams that can generate stable net income and measurably reduce concentration. Diversification efforts should be supported by governance mechanisms that strengthen credibility with external stakeholders, because credibility expands the range of resources an institution can access on favourable terms, which is central to dependence reduction in Resource Dependence Theory (Hillman et al., 2009). These actions are not presented as universal solutions but as empirically grounded priorities that respond to the dependence structure revealed by the concentration measures.

Future research should test these patterns with larger samples of private faith-based institutions across Zambia and the region and should track concentration metrics longitudinally to determine whether portfolio shifts predict improved liquidity, stronger operating margins, and reduced volatility. Mixed-methods designs that connect concentration trends to governance practices and stakeholder decisions would also deepen understanding of the mechanisms through which dependence is reproduced or reduced. A further priority is to examine the feasibility of particular non-tuition revenue streams in the Zambian faith-based context, including the governance conditions under which such streams can be scaled without compromising mission and trust.

This objective demonstrates that the key issue is not merely that tuition is the dominant revenue stream, but that the overall funding architecture is concentrated in ways that expose institutions to external shocks and constrain strategic discretion. By operationalising dependence through concentration measures, the study provides an empirical basis for designing a resilience model that is judged by measurable dependence reduction rather than by aspirational diversification claims. This is the critical bridge to the next objective, which examines the drivers through which dependence becomes vulnerability and identifies where institutional action and policy design can most effectively strengthen resilience.

Objective 3: To identify the main drivers of financial vulnerability

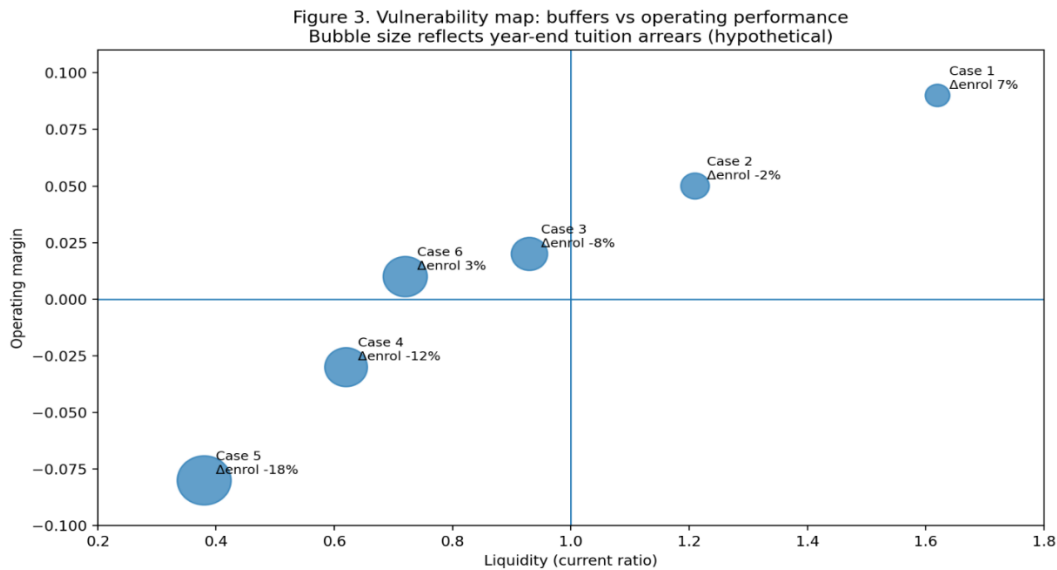


Figure 3 shows a clear concentration of vulnerability in the lower-left region, where liquidity is below 1.00 and operating margins are at or below 0.00. Two cases fall below both thresholds. Case 4 records a current ratio of 0.62 and an operating margin of -0.03 , alongside an enrolment change of -12% and arrears of ZMW 3,800,000. Case 5 records the weakest profile, with a current ratio of 0.38 and an operating margin of -0.08 , an enrolment change of -18% , and the largest arrears burden of ZMW 6,400,000.

Two additional cases show constrained liquidity even though operating margins remain slightly positive. Case 6 records a current ratio of 0.72 and an operating margin of 0.01, an enrolment change of 3%, and arrears of ZMW 4,100,000. Case 3 records a current ratio of 0.93 and an operating margin of 0.02, an enrolment change of -8% , and arrears of ZMW 2,600,000. By contrast, the cases with stronger buffers are positioned in the upper-right region. Case 1 records a current ratio of 1.62 and an operating margin of 0.09, an enrolment change of 7%, and arrears of ZMW 900,000, while Case 2 records a current ratio of 1.21 and an operating margin of 0.05, an enrolment change of -2% , and arrears of ZMW 1,400,000.

Across the cases, the drivers of vulnerability cluster into four measurable mechanisms that co-occur with stress positioning in Figure 3. The first is weak liquidity, with current ratios below 1.00 in Cases 3, 4, 5, and 6. The second is operating deficit risk, observed in Cases 4 and 5 through negative operating margins. The third is arrears intensity, with arrears exceeding ZMW 3,000,000 in Cases 4, 5, and 6. The fourth is enrolment sensitivity, with the most severe enrolment declines in Cases 4 and 5.

The purpose of this objective was to explain how dependence becomes vulnerability by identifying the mechanisms through which financially concentrated private Christian universities experience stress. The key insight from Figure 3 is that vulnerability is not driven by a single factor such as enrolment decline or low income in isolation. Instead, vulnerability emerges when several pressures co-occur and reinforce one another, especially weak liquidity, thin or negative operating margins, large arrears burdens, and exposure to enrolment shocks. The most important takeaway is therefore structural: vulnerability is best understood as a linked system of cash flow instability and constrained buffers, rather than as a collection of unrelated financial symptoms.

Interpreting the pattern analytically, Figure 3 suggests that arrears intensity functions as a central transmission mechanism through which tuition dependence becomes operational stress. In tuition-centred institutions, the critical issue is not only the share of income that is labelled “tuition” in accounts, but the extent to which billed tuition reliably converts into usable cash within the operating cycle. Where arrears are high, reported income may overstate cash availability, and institutions can appear viable on paper while experiencing day-to-day liquidity stress. This insight helps explain why some cases remain financially fragile even when their operating margins are not deeply negative. In other words, arrears erode the timing and predictability of cash flows,

which constrains the institution's capacity to pay obligations, maintain quality inputs, and invest in sustainability initiatives that require upfront costs and disciplined implementation.

The observed clustering of weak liquidity and negative margins in the highest-stress cases also points to a well-known but often under-specified problem in private higher education finance: once liquidity drops below acceptable thresholds and margins turn negative, the institution's discretionary space collapses. Under such conditions, institutions may respond through short-horizon decisions such as delaying payments, reducing academic support services, freezing staff development, or deferring quality-related investments. The implication is that vulnerability can become self-reinforcing. Declining quality and reduced student support can affect retention and reputation, which can further weaken enrolment and cash flow, deepening stress in the next cycle. This aligns with higher education market research showing that competitive pressures and demand sensitivity influence financial sustainability through their effects on student demand and institutional revenue stability (Baltaru et al., 2022). It also aligns with tuition and pricing research indicating that affordability and price signals shape enrolment and persistence in ways that disproportionately affect institutions serving financially constrained populations (Kelchen & Pingel, 2024). In the context of private Christian universities, where many students may be drawn from households with limited capacity to absorb fee shocks, the arrears channel is a particularly plausible mechanism linking affordability stress to institutional liquidity risk.

The findings also resonate with broader financial sustainability research that treats low buffers and high concentration as predictors of vulnerability, while cautioning that the efficacy of diversification depends on institutional capacity to manage complexity and generate net surplus, not merely gross income (Chikoto, 2016; Le et al., 2021). What Figure 3 adds is a compact diagnostic demonstration of where stress shows up in operational terms. It does not simply restate that dependence exists. It shows how dependence pressures appear as weak liquidity and negative margins in the presence of large arrears burdens and enrolment shocks. This is a meaningful extension of the literature because it provides an empirical bridge between revenue structure debates and the day-to-day financial conditions that determine whether institutions can sustain quality, comply with regulatory expectations, and protect staff stability.

Resource Dependence Theory provides the most parsimonious explanation for why these drivers cluster rather than appear independently. The theory argues that organisations are constrained by external actors who control critical resources and that dependence increases vulnerability because it reduces autonomy and exposes the organisation to shocks beyond its control (Hillman et al., 2009). In this study, the fee-paying market and associated affordability conditions function as the dominant resource environment. When revenue concentration is high and tuition is dominant, external shocks such as household income stress, shifting student demand, or changes in sponsor decisions are transmitted into the institution through reduced fee collection and increased arrears. This reduces cash inflows, weakens liquidity, and can lead to operating deficits where costs do not adjust downward at the same pace as income. The figure therefore supports the theoretical expectation that dependence is not only a constraint on strategy but also a driver of operational instability that can restrict the institution's capacity to invest in resilience. The theory is also refined by the evidence here: dependence should be understood not only as reliance on a revenue source, but as reliance on a revenue source whose conversion to cash is uncertain and whose volatility is amplified by affordability and payment dynamics. In applied terms, this means that a resilience model built on Resource Dependence Theory must treat cash conversion discipline, arrears management, and liquidity protection as central strategies, not as administrative details.

A strength of the findings is that they also illuminate mixed and seemingly counterintuitive cases. For example, a case can show only modest enrolment decline yet still experience high vulnerability when arrears and liquidity are severe. This pattern is plausible in settings where payment delays are widespread and where institutions rely on instalment arrangements that increase revenue risk. It is also plausible where compliance costs and staffing costs behave like fixed or semi-fixed obligations that do not contract quickly when receipts decline. Another mixed pattern is where a case has a small positive margin but remains liquidity stressed because cash inflows are unstable or arrears are high. Rather than being anomalies, such cases underscore why vulnerability analysis must distinguish between accounting performance and cash performance. This is precisely why the figure-based dashboard approach is valuable, because it reveals stress mechanisms that can be obscured if analysis is limited to a single indicator.

The implications of these findings are concrete for institutional practice, policy, and research. For practice, the evidence suggests that resilience strategies should be sequenced. Institutions positioned in the high-stress quadrant require immediate stabilisation of liquidity and cash inflows before they can credibly pursue complex diversification. In operational terms, this implies implementing a strict arrears management framework with transparent payment rules, early warning systems, and consistent enforcement, alongside realistic instalment plans that protect retention without undermining cash predictability. It also implies that councils and management should monitor a small dashboard of indicators on a routine basis, including current ratio, operating margin, arrears burden, and enrolment change, and tie these to decision thresholds that trigger corrective action. In addition, the results suggest that cost discipline is not optional. Where cost-to-income pressure pushes margins toward or below zero, resilience is threatened because institutions lose the capacity to reinvest in quality and to support staff stability.

For policy, the results highlight that student financing design and affordability pathways shape institutional stability in tuition-dependent private provision. Where loan coverage is limited or poorly aligned to private sector participation, arrears pressure is likely to intensify, and institutions will face chronic liquidity stress. While this objective does not test policy causality directly, it provides a clear diagnostic signal that institutional vulnerability is linked to affordability and fee collection conditions, and therefore to system-level financing arrangements. Regulators and policymakers should therefore view private Christian university sustainability not only as an institutional management issue but also as a financing-system design issue, especially where private providers carry part of the national burden of access expansion.

For research, the clustering pattern suggests specific next steps that would deepen the evidence base. Longitudinal analysis is needed to test whether improvements in arrears management and liquidity protection predict better margins and reduced volatility over time. A larger multi-institution sample would allow modelling of whether concentration, liquidity, arrears, and enrolment change interact predictably, and whether governance quality moderates those effects. Mixed-methods work could also unpack the institutional practices behind arrears, such as fee policy design, scholarship strategies, enforcement rules, and student support systems, to understand why some institutions maintain better cash conversion than others under similar market conditions.

These interpretations should be read with limitations in mind. The analysis is case-based and uses a limited number of institutions, which means the results should be treated as diagnostic and explanatory rather than as definitive sector-wide causal claims. The measures also depend on consistent accounting categorisation and on the accuracy of arrears recording, which may vary across institutions. In addition, the figure does not capture all plausible drivers of vulnerability, such as debt structure, capital expenditure commitments, the timing of sponsor disbursements, or the full burden of compliance and quality assurance costs. These limitations do not weaken the value of the objective, but they clarify that the contribution is to identify and visualise the key stress mechanisms that the resilience model must address, rather than to exhaust all possible determinants.

Recommendations grounded in the results follow directly. First, institutions should adopt a resilience dashboard that integrates liquidity, margin, arrears, and enrolment trends and should make this dashboard a routine council oversight tool. Second, institutions should treat arrears reduction as a strategic priority through fee collection reform and payment design that stabilises cash flow while protecting retention. Third, cost discipline should be pursued in ways that protect academic quality, focusing on productivity measures and cost structures that reduce the likelihood of persistent negative margins. Fourth, diversification should be pursued as a portfolio strategy only after basic cash flow stability is restored, because institutions in acute liquidity stress have limited capacity to manage complex new ventures without governance and performance monitoring systems.

Objective 3 demonstrates that financial vulnerability in private Christian universities is produced by an interacting set of pressures that compress institutional discretion, especially weak liquidity, thin or negative operating margins, high tuition arrears, and exposure to enrolment shocks. These mechanisms clarify that resilience cannot be achieved through isolated income projects alone, because institutions under cash flow stress lack the buffers and governance bandwidth required to implement complex initiatives effectively. The next step is therefore to translate the diagnostic evidence into a context-fit resilience model that targets the

specific stress channels identified in Figures 1–3, with the explicit aim of reducing dependence, stabilising cash conversion, strengthening stewardship credibility, and rebuilding financial buffers over time.

Objective 4: To formulate a context-fit resilience model for funding stability in private Christian universities in Zambia

This section presents a resilience model grounded in the empirical patterns established in the preceding objectives. The model consists of five interdependent components. The first component is a portfolio-based revenue diversification strategy that is judged by measurable reduction in revenue concentration rather than by the number of initiatives launched. The logic is that diversification is stabilising only when it shifts the revenue structure, reduces dominance by one or two streams, and produces reliable net contribution. In the Zambian private Christian university context, this portfolio prioritises mission-aligned streams that can be scaled within existing capability constraints, including professionally oriented short courses and micro-credentials, facility hire and rentals, targeted consultancy and applied research services, and structured alumni and philanthropic giving. The model requires that each stream be evaluated on net contribution and predictability, because gross receipts can mask hidden costs and fail to strengthen liquidity. This component is a direct response to the concentration levels observed in Figure 2 and the vulnerability transmission channels in Figure 3, and it reflects evidence that diversification strengthens sustainability when treated as a coherent portfolio aligned to capacity and governance rather than as disconnected projects (Chikoto, 2016; Le et al., 2021).

The second component is cash conversion discipline, centred on arrears management and liquidity protection. Figure 3 indicated that arrears intensity is a major stress mechanism through which tuition dependence undermines operational stability. The model therefore treats arrears as a strategic risk that must be managed through explicit institutional policies and decision rules. Key elements include clear fee payment structures, early warning triggers, consistent enforcement coupled with realistic payment plans, targeted student support for retention, and routine monitoring of arrears relative to operating income. The model also emphasises the protection of minimum liquidity buffers through disciplined working-capital management. The rationale is that resilience requires not only revenue generation but also the reliability and timing of cash inflows. From a Resource Dependence perspective, improving cash conversion increases institutional discretion by reducing the extent to which external shocks immediately destabilise internal operations (Hillman et al., 2009). It also strengthens credibility with stakeholders, which can expand access to partnerships and alternative resources.

The third component is strategic enrolment and market positioning. The empirical patterns in Figures 1–3 suggest that tuition dependence becomes especially risky when enrolment is volatile and affordability pressures are strong. This component focuses on stabilising net tuition revenue by improving recruitment and retention, strengthening programme-market fit, and adopting delivery approaches that widen access without undermining quality. It also includes a scholarship and bursary strategy that is financially disciplined and aligned to retention, rather than ad hoc fee reductions that weaken cash flow. The model recognises that institutions cannot diversify effectively if their core tuition stream is unstable, because unstable tuition undermines both liquidity and the capacity to invest in new revenue streams. This aligns with evidence that demand sensitivity and affordability conditions influence revenue stability in competitive higher education environments (Baltaru et al., 2022; Kelchen & Pingel, 2024).

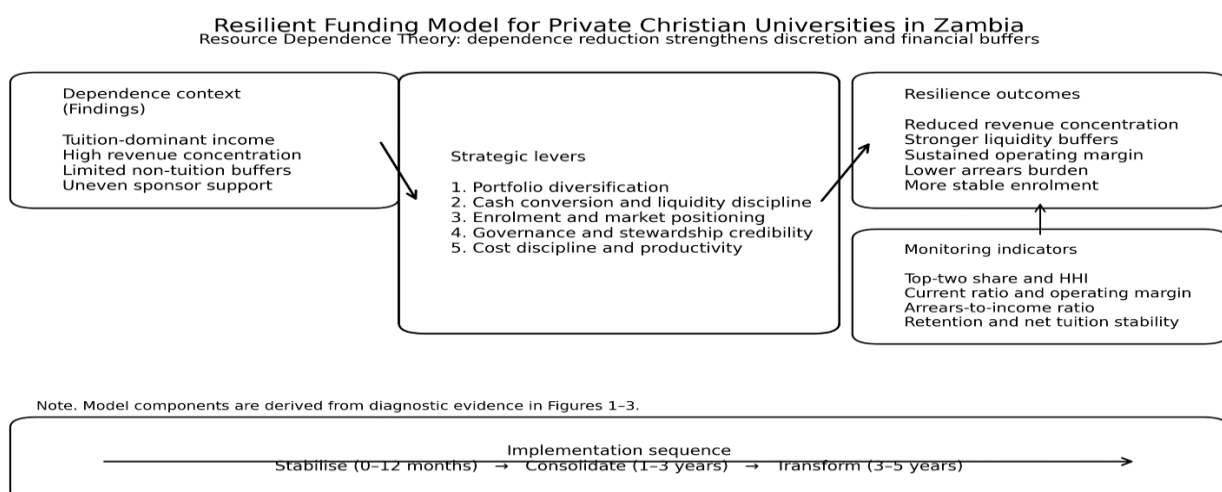
The fourth component is governance and stewardship credibility, which functions as the enabling infrastructure of the entire model. In private Christian universities, trust is not only a moral asset but also a financial asset, because it underpins sponsor confidence, donor willingness, alumni giving, and partnership formation. The model therefore emphasises transparent financial reporting, strong internal controls, council oversight of risk indicators, and credible accountability mechanisms that demonstrate faithful stewardship while protecting academic integrity. This component is grounded in the Resource Dependence insight that organisations can manage dependence not only by generating new resources but also by strengthening their bargaining position and legitimacy with external stakeholders, thereby expanding the range of resources they can access on favourable terms (Hillman et al., 2009). It also responds to the empirical reality that fragmented initiatives will not scale if governance confidence is weak, because stakeholders become reluctant to commit predictable support.

The fifth component is cost discipline and productivity improvement that protects quality. Figure 3 showed that negative operating margins co-occur with weak liquidity in the most stressed cases, indicating that cost structure rigidity can amplify dependence risk when revenues become unstable. The model therefore includes measures aimed at restoring and sustaining positive operating margins without undermining academic standards. These measures include careful staffing models that match enrolment realities, shared services approaches, technology-enabled delivery efficiencies where appropriate, and targeted expenditure prioritisation that protects core teaching and student support. This component draws from the practical insight that resilience depends on maintaining a cost structure that can absorb shocks without immediately shifting into deficit, while still meeting quality assurance obligations and mission commitments.

To operationalise the model, implementation is organised into three sequenced phases that reflect the vulnerability findings. In the short term, the priority is stabilisation. Institutions focus on arrears reduction, cash conversion improvement, restoring basic liquidity buffers, and implementing a small resilience dashboard that monitors current ratio, operating margin, arrears burden, and enrolment trend on a routine basis. In the medium term, the priority is consolidation. Institutions scale a limited number of mission-aligned non-tuition streams with verified net contribution, strengthen partnership pipelines, and implement governance reforms that increase stakeholder confidence and predictability of support. In the long term, the priority is transformation. Institutions pursue deeper portfolio shifts that reduce revenue concentration, develop structured philanthropy and alumni giving mechanisms, and establish enterprise units and applied research services that generate stable net income while reinforcing institutional relevance.

Monitoring and evaluation are built into the model through a defined set of indicators that directly correspond to the dependence and vulnerability mechanisms identified earlier. These include revenue concentration measures such as top-two share and HHI, liquidity measures such as current ratio, operating margin and cost-to-income ratios, arrears burden relative to operating income, and enrolment and retention trends that indicate stability of the tuition base. The logic is that resilience must be observed as measurable dependence reduction and strengthened buffers, not only as the presence of new initiatives. This approach aligns with the broader evidence that financial sustainability is improved when institutions adopt coherent, measurable strategies and manage diversification and buffering capacity intentionally (Chikoto, 2016; Le et al., 2021).

In summary, the proposed resilience model translates the empirical diagnosis from Objectives 1–3 into an integrated and implementable framework for funding stability in Zambia’s private Christian universities. Anchored in Resource Dependence Theory, it treats resilience as the expansion of strategic discretion through reduced concentration, improved cash conversion, strengthened governance credibility, stabilised enrolment pathways, and disciplined cost structures (Hillman et al., 2009). The model is designed to be judged by measurable outcomes, particularly downward shifts in concentration indicators, improved liquidity and operating margins, and reduced arrears intensity, thereby providing a practical basis for moving from dependence to sustainability in a way that is compatible with faith-based identity and institutional legitimacy.



REFERENCES

1. Baltaru, R. D. (2022). Do rankings affect universities' financial sustainability? Financial vulnerability to rankings and elite status as a positional good. *Studies in Higher Education*, 47(11), 2323–2335. <https://doi.org/10.1080/03075079.2022.2061447>
2. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp0630a>.
3. Chikoto, G. L., & Calabrese, T. D. (2016). The adoption and use of the Hirschman–Herfindahl Index in nonprofit research: Does revenue diversification measurement matter? *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, 27(3), 1425–1447. <https://doi.org/10.1007/s11266-015-9654-1>
4. Choi, S. Y. (2025). How does nonprofit revenue diversification affect revenue volatility before, during and after external economic crisis? *Nonprofit and Voluntary Sector Quarterly*. <https://doi.org/10.1177/08997640251316487>
5. Choi, S. Y. (2025). How does nonprofit revenue diversification affect revenue volatility before, during and after external economic crisis? *Nonprofit and Voluntary Sector Quarterly*. Advance online publication. <https://doi.org/10.1177/08997640251316487>
6. Daka, H., Mijere, S. A., Bwembya, I., Mulenga Hagane, L. M., Banda, B., & Chazanga, F. C. C. (2025). Quality assurance mechanisms that enhances academic and administrative performance in public higher learning institutions in Zambia. *International Journal of Research and Scientific Innovation*, 12(6), 1045–1062. <https://doi.org/10.51244/IJRSI.2025.12060084>
7. Daka, H., Mijere, S. A., Bwembya, I., Mulenga Hagane, L. M., Banda, B., & Chazanga, F. C. C. (2025). Quality assurance mechanisms that enhances academic and administrative performance in public higher learning institutions in Zambia. *International Journal of Research and Scientific Innovation*, 12(6), 1045–1062. <https://doi.org/10.51244/IJRSI.2025.12060084>
8. Diedericks, J. P. (2019). The idea of a “for-profit” private Christian university in South Africa. *Koers—Bulletin for Christian Scholarship*, 84(1), Article a2472. <https://doi.org/10.19108/KOERS.84.1.2472>
9. DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147–160. <https://doi.org/10.2307/2095101>
10. DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147–160. <https://doi.org/10.2307/2095101>
11. DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147–160. <https://doi.org/10.2307/2095101>
12. Higher Education Authority. (2021). Zambia standards and guidelines for quality assurance in higher education.
13. Higher Education Loans and Scholarships Board. (n.d.). [Official website information on student financing/loans]. Retrieved December 28, 2025, from the Higher Education Loans and Scholarships Board website.
14. Hillman, A. J., Withers, M. C., & Collins, B. J. (2009). Resource dependence theory: A review. *Journal of Management*, 35(6), 1404–1427. <https://doi.org/10.1177/0149206309343469>.
15. Hillman, A. J., Withers, M. C., & Collins, B. J. (2009). Resource dependence theory: A review. *Journal of Management*, 35(6), 1404–1427. <https://doi.org/10.1177/0149206309343469>
16. Hillman, A. J., Withers, M. C., & Collins, B. J. (2009). Resource dependence theory: A review. *Journal of Management*, 35(6), 1404–1427. <https://doi.org/10.1177/0149206309343469>
17. Hillman, A. J., Withers, M. C., & Collins, B. J. (2009). Resource dependence theory: A review. *Journal of Management*, 35(6), 1404–1427. <https://doi.org/10.1177/0149206309343469>
18. Kelchen, R., & Pingel, S. (2024). Examining the effects of tuition controls on student enrollment. *Research in Higher Education*, 65(1), 199–225.
19. Le, T. T., Thao, H. M., Anh, L. T., & Cuong, N. V. (2021). Adopting the Hirschman–Herfindahl Index to estimate the financial sustainability of Vietnamese public universities. *Humanities and Social Sciences Communications*, 8, 219. <https://doi.org/10.1057/s41599-021-00902-2>

20. Mardones, J. A. G., & Palacios, J. A. M. (2023). Chilean universities and universal gratuity: Suggestions for a model to evaluate the effects on financial vulnerability. *Sustainability*, 15(13), 9961. <https://doi.org/10.3390/su15139961>
21. Masaiti, G., & Shen, H. (2013). Cost sharing in Zambia's public universities: Prospects and challenges. *European Journal of Educational Research*, 2(1), 1–16. <https://doi.org/10.12973/eu-jer.2.1.1>
22. Moberg, M. (2023). Understanding religious organizational marketization: The case of the United States mainline. *Journal of the American Academy of Religion*, 90(4), 815–835. <https://doi.org/10.1093/jaarel/lfac076>
23. Ngcobo, X. M. (2024). Revenue sourcing for the financial sustainability of a university of technology: An exploratory study. *Cogent Social Sciences*. <https://doi.org/10.1080/2331186X.2023.2295173>
24. Ngcobo, X. M., Marimuthu, F., & Stainbank, L. J. (2024). Revenue sourcing for the financial sustainability of a university of technology: An exploratory study. *Cogent Education*, 11(1), 2295173. <https://doi.org/10.1080/2331186X.2023.2295173>
25. Oketch, M. (2023). What is the appropriate higher education finance model for Africa? Some reflections. *South African Journal of Higher Education*, 37(6), 131–152.
26. Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, 42, 533–544. <https://doi.org/10.1007/s10488-013-0528-y>.
27. Republic of Zambia. (2013). The Higher Education Act, No. 4 of 2013. Government Printer.
28. Republic of Zambia. (2016). The Higher Education (Quality Assurance System) Regulations, 2016 (Statutory Instrument No. 25 of 2016). Government Printer.
29. Sánchez-Tabernero, A. (2024). Governance, identity and freedom in Christian inspired universities. *Church, Communication and Culture*, 9(2), 260–276. <https://doi.org/10.1080/23753234.2024.2388512>
30. Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). SAGE Publications.