

BEYOND TRADITIONAL BUDGETING: A STRATEGIC COST MANAGEMENT FRAMEWORK FOR ENHANCING COST EFFICIENCY IN HIGHER EDUCATION

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ABSTRACT

The study develops a conceptual model that links budgeting systems with strategic cost management to explain their role in enhancing the cost efficiency of higher education institutions. Strategic Cost Management is conceptualised as a mediating mechanism that facilitates the identification of organisational inefficiencies and supports optimal resource utilisation. This approach allows organisations in the education sector to move beyond routine cost control toward achieving cost efficiency while maintaining the quality of teaching, research, and administrative performance. The model further incorporates corporate governance and organisational flexibility as contextual factors that influence the effectiveness of budgeting and cost management systems. By integrating budgeting systems with strategic cost management, this study provides a structured framework for understanding how financial planning contributes to cost efficiency and overall institutional performance. The proposed model addresses an important gap in the management accounting literature and offers practical implications for administrators seeking to improve financial effectiveness in the higher education landscape.

KEY WORDS: Budgeting Systems; Strategic Cost Management; Cost Efficiency; Organisational Performance; Educational Institutions

INTRODUCTION

Budgeting systems have traditionally been a key element of planning and control in various organisations, including those in the education sector. Universities, colleges, and various educational institutions depend significantly on budgeting processes to distribute financial resources, track spending, and maintain accountability (Lepori *et al.*, 2013). Nonetheless, the growing complexity within higher education institutions (HEIs), such as funding limitations, escalating operational expenses, and increased performance demands, has revealed the shortcomings of conventional budgeting methods (Kenno & Sainty, 2017; Yao & Yang, 2025).

Conventional budgeting systems are often criticised for their rigid structures, incremental allocation methods, and limited responsiveness to environmental changes (Kenno & Sainty, 2017). In an academic environment, these constraints are especially evident because of the varied activities, including teaching, research, and administrative and support functions (Yu *et al.*, 2021; Kaur, 2024). Budgeting methods often overlook the strategic priorities or hinder effective resource utilisation within educational institutions (Radonic, 2018). Existing research indicates that numerous educational institutions still depend on budgets based on historical data, potentially maintaining inefficiencies and hindering innovation (Yao & Yang, 2025).

The limitations of conventional budgeting practices have become even more pronounced as the higher education sector undergoes substantial transformation. Decreasing public funding, heightened competition for students, and a stronger focus on accountability and performance assessment have forced institutions to implement more strategic methods for financial management (Kaur, 2024). International organisation reports show that public spending on education as a portion of GDP has been limited in various regions, stressing the need for institutions to enhance resource use and increase cost efficiency (UNESCO, 2025). In this context, dependence on conventional budgeting methods is becoming increasingly inadequate.

To address these challenges, there has been a growing shift toward integrating budgeting systems with broader strategic management practices. Strategic Cost Management (SCM) has been considered a critical approach in this regard, highlighting the importance of utilising cost information for strategic decisions instead of just focusing on cost control (Shank & Govindarajan, 1993). SCM emphasises comprehending cost drivers, evaluating value chains, and synchronising cost structures with organisational goals (Duci, 2021). Although both budgeting systems and SCM have attracted considerable scholarly attention, their interrelationship remains underexplored. Existing literature has largely examined budgeting systems and cost management practices in isolation, resulting in fragmented insights into how financial planning translates into cost efficiency. This gap is particularly evident in the context of HEIs, where financial decisions must balance cost considerations with academic quality and institutional mission.

The present study addresses this gap by developing a conceptual model that links budgeting systems with SCM to explain their combined role in enhancing the cost efficiency of HEIs. Drawing upon theoretical perspectives such as the Resource-Based View (Barney, 1991), Contingency Theory (Otley, 1980), and Agency Theory (Meckling & Jensen, 1976), the research redefines budgeting as a strategic component that enhances cost management processes instead of functioning merely as an independent control tool.

The significance of this study lies in its potential to provide a more integrated understanding of financial management within HEIs. By positioning budgeting within the framework of SCM, the research offers a comprehensive perspective on how institutions can improve resource utilisation and achieve cost efficiency in an increasingly constrained environment. Furthermore, the proposed model contributes to the literature by bridging two traditionally separate streams of research and provides a foundation for future empirical investigation.

REVIEW OF LITERATURE

This section reviews existing literature on budgeting systems, modern budgeting approaches, SCM, and cost efficiency with particular relevance to the education sector. It critically examines prior studies to identify conceptual gaps and establish the foundation for the proposed framework. The discussion is structured to establish the relationship of budgeting practices with strategic cost processes and cost efficiency outcomes.

➤ BUDGETING SYSTEMS

Budgeting has traditionally been regarded as a central element of management control systems, supporting planning, coordination, and performance evaluation (Otley, 1999). In academic organisations, budgeting plays a crucial role in allocating financial resources across teaching, research, and administrative functions (Lepori *et al.*, 2013). However, due to the inaccurate cost allocations, traditional budgeting systems have been widely criticised with respect to limited flexibility and lack of strategic relevance within educational institutions (Kaur, 2024). Prior studies indicate that conventional budgeting often reinforces historical expenditure patterns, thereby constraining innovation and limiting efficient resource utilisation. As validated by Hansen *et al.* (2003) and Rigby *et al.* (2021), this issue is particularly relevant in HEIs, where funding allocations are frequently influenced by past spending rather than current needs or performance indicators.

While budgeting remains widely adopted in varied industries, its perceived usefulness has declined in dynamic environments (Celestin, 2017). Candio (2024) and Kenno *et al.* (2018) find that many organisations continue to rely on budgets despite expressing dissatisfaction with their ability to support timely and effective decision-making. In the context of educational institutions, this limitation is amplified by the complexity of operations, increasing demand for accountability and performance-based management, lack of top management support, and lack of staff training (Kaur, 2024; Pamuji, 2026). Thus, the challenges inherent in traditional budgeting systems necessitate the exploration of alternative methodologies that can better align resource allocation with strategic objectives and foster adaptability in the face of evolving institutional demands (Batt, 2025; Candio, 2024).

➤ EMERGENCE OF MODERN BUDGETING APPROACHES

In response to the limitations of traditional budgeting, a range of alternative approaches has emerged, collectively aimed at enhancing flexibility and strategic alignment. These contemporary methodologies, such as Activity-Based Budgeting, Rolling Budgeting, Zero-Based Budgeting, and Performance-Based Budgeting, seek to address the challenges posed by dynamic operating environments and the inherent rigidities of conventional models (Nikodiievic *et al.*, 2021).

Activity-Based Budgeting, for instance, meticulously allocates resources by identifying and costing organisational activities, thereby linking expenditures directly to value-generating processes (Cooper & Kaplan, 1992; Grobler-Dębska *et al.*, 2024; Kaur, 2024; and Szatmary, 2011). Conversely, Zero-Based Budgeting mandates a complete robustification of all expenses at the start of each budgeting cycle, rather than basing allocations on prior periods (Wetherbe & Montanari, 1981). This approach, though resource-intensive and time-consuming, promotes cost discipline by requiring comprehensive justification for every expenditure (Samudrage & Beddage, 2018). Rolling Budgeting continuously updates the budget by adding a new period as the current one expires, fostering greater adaptability to changing conditions, while Performance-Based Budgeting integrates performance measures and targets into the allocation process, emphasising outcomes over inputs (Hansen, 2011; Pratolo *et al.*, 2020; Young, 2003). These alternative budgeting frameworks aim to mitigate the criticisms levelled against traditional budgeting for its rigidity and inability to adapt to dynamic market conditions (Celestin, 2017). The implementation of such innovative budgeting systems can significantly improve resource allocation efficiency and decision-making efficiency, as well as it can foster greater accountability within organisations (Celestine, 2017; Rehman, 2025; Sunaryo *et al.*, 2025).

Although these approaches offer significant advantages, their implementation in academic organisations remains uneven. Institutional rigidities and governance constraints in educational institutions often limit the extent to which such innovations can be adopted effectively (Abugre, 2018; Rehman, 2025). Existing literature indicates that the adoption of modern budgeting techniques does not automatically translate into improved organisational outcomes. Their effectiveness depends on how the budgeted financial data is utilised in integration with strategic costing techniques (Nazarova *et al.*, 2016). This observation underscores the need to integrate budgeting systems with strategic management practices, particularly in the domain of cost management.

➤ STRATEGIC COST MANAGEMENT AND ITS RELEVANCE

SCM represents a significant shift from traditional cost accounting by emphasising the strategic use of cost information to enhance competitive advantage and organisational performance (Shank & Govindarajan, 1993). Instead of just focusing on cost control, SCM involves the analysis of cost drivers, value chain activities, and long-term cost positioning.

Key techniques associated with SCM include activity-based costing, balance scorecard, target costing, life cycle costing, value chain analysis and value engineering (Horngren *et al.*, 2000). These tools enable organisations to identify inefficiencies, allocate resources more effectively, and align cost structures with strategic objectives. In the context of HEIs, SCM can be applied to evaluate the cost-effectiveness of academic programs, optimise administrative processes, and improve resource allocation across departments (Bitner & Trussel, 2000; Ayam, 2024).

Despite its potential, the application of SCM in the education sector has received limited scholarly attention. Existing studies tend to focus on its adoption in manufacturing and service industries, with relatively few exploring its relevance in non-profit and public sector organisations (Kaur, 2024). This gap is significant, given the increasing financial pressures faced by HEIs and the growing emphasis on accountability and performance measurement within the education sector (Guthrie *et al.*, 2024).

➤ RELATIONSHIP BETWEEN BUDGETING SYSTEMS AND STRATEGIC COST MANAGEMENT

While both budgeting systems and SCM have been extensively studied, their interrelationship remains underdeveloped in the literature. Budgeting systems are primarily concerned with financial planning and control, while SCM focuses on the strategic use of cost information. Although different, these functions are inherently interconnected. For instance, when budgeting systems are integrated with SCM, generated data can be analysed to identify cost drivers, evaluate value-creating activities, and make informed strategic decisions (Kumar *et al.*, 2025). In the absence of such integration, budgeting systems risk becoming routine administrative exercises with limited strategic impact. Basically, budgeting systems may exert an immediate operational influence on cost efficiency by imposing expenditure controls, resource allocation rules, and financial discipline. Such mechanisms can reduce unnecessary spending and improve short-term budgetary compliance even in the absence of formal SCM. However, these effects are primarily operational rather than strategic. Budgeting systems do not explain independently how cost information is analysed, interpreted, and translated

into resource optimisation decisions across academic activities. SCM provides this critical capability by transforming budget-generated information into strategic actions through cost driver analysis, value chain evaluation, and evidence-based resource allocation (Shank & Govindarajan, 1993). Accordingly, this study argues that budgeting contributes to long-term cost efficiency primarily through its integration with SCM.

The Resource-Based View (RBV) Theory, Contingency Theory and Agency Theory provide a useful theoretical lens for understanding this relationship. RBV Theory emphasises the role of organisational capabilities in transforming resources into performance outcomes (Barney, 1991). Budgeting systems alone do not constitute a strategic capability; rather, their value depends on how effectively budgeting techniques are combined with SCM techniques (Kumar *et al.*, 2025). Similarly, Contingency Theory suggests that the effectiveness of budgeting and cost management systems depends on their alignment with organisational context and environmental conditions (Otley, 1980).

In academic institutions, factors such as organisational flexibility, governance structures, and environmental uncertainties influence how budgeting and cost management practices are implemented and utilised. Agency Theory further highlights the importance of governance mechanisms in ensuring accountability and efficient resource allocation (Jensen & Meckling, 1976), particularly in academic institutions where financial decisions are made on behalf of multiple stakeholders, including governing bodies, regulatory authorities, and society.

Despite these theoretical insights, empirical research has not adequately examined the mediating role of SCM in linking budgeting systems to organisational performance. This represents a critical gap, particularly in the context of HEIs, where financial decisions must balance cost efficiency with educational quality.

➤ COST EFFICIENCY IN ACADEMIC ORGANISATIONS

To optimise resource utilisation while maintaining academic standards, cost efficiency has emerged as a key performance indicator in the education sector (Mensah & Werner, 2003). Cost efficiency involves achieving desired outcomes with minimal resource wastage, thereby ensuring value creation (Robst, 2001). In academic institutions, cost efficiency is influenced by factors such as program design, faculty allocation, infrastructure utilisation, and administrative processes (Yu *et al.*, 2024). Studies suggest that inefficient resource allocation and lack of cost transparency often hinder the achievement of cost efficiency goals (Mensah & Werner, 2003; Sofiah *et al.*, 2024). However, by using techniques such as cost driver analysis, value chain analysis, and strategic cost planning, SCM can help institutions to better understand cost behaviour and improve their resource allocation decisions.

In the literature, most studies claim cost efficiency as a direct outcome of financial controls, without considering the underlying mechanisms that link planning systems to efficiency outcomes. This study, therefore, proposes a conceptual model that integrates budgeting systems with SCM to explain their role in enhancing cost efficiency. By incorporating contextual factors, i.e., corporate governance and organisational flexibility, the study aims to provide a comprehensive framework that enlightens the realities of HEIs.

PROPOSED CONCEPTUAL FRAMEWORK

Based on the research gaps identified, the study develops a conceptual model grounded in three theoretical perspectives, i.e., Contingency Theory, Resource-Based View Theory and Agency Theory. The model describes how SCM mediates the relationship between budgeting systems and the cost efficiency of HEIs. It proposes that budgeting systems do not have a direct influence on cost efficiency; rather, their impact is realised through SCM processes. Additionally, the framework incorporates contextual factors that influence the effectiveness of these associations. Along with the conceptual definitions of constructs used in the proposed model, this section presents commonly used measurement approaches in the literature for each variable, thereby providing a foundation for future empirical validation.

➤ THEORETICAL FOUNDATION

As stated, the proposed framework underpins three theoretical perspectives: the Resource-Based View (RBV) Theory, Contingency Theory, and Agency Theory. The Resource-Based View emphasises that organisational performance depends on the effective utilisation of resources and capabilities (Barney, 1991). According to this viewpoint, budgeting systems are not intrinsically strategic, but their effectiveness is realised when their data is integrated with SCM techniques such as activity-based costing systems, balance scorecard, value chain analysis, etc (Nazarova *et al.*, 2016). SCM can enable academic institutions to convert financial information into strategic insights, thereby improving resource efficiency and utilisation. Contingency Theory suggests that the effectiveness of management control systems depends on their alignment with organisational context and environmental conditions (Otley, 1980). In the education sector, factors such as availability of IT infrastructure, adaptability to innovative strategic techniques, top management support, funding uncertainty, regulatory requirements, and institutional diversity necessitate flexible and adaptive budgeting practices (Kaur, 2024; Otley, 2016). Thus, the contingency lens supports the inclusion of organisational flexibility as a key contextual variable in the study model. Further, Agency Theory highlights the relevance of governance mechanisms in ensuring accountability and efficient resource allocation (Meckling & Jensen, 1976). In educational entities, governance structures play a critical role in monitoring financial decisions and aligning them with institutional objectives (Kivistö & Zalyevska, 2015). This provides the basis for incorporating corporate governance as a moderating factor in the framework.

Collectively, these theories suggest that budgeting systems provide the financial foundation for planning and control, whereas SCM transforms budget information into strategic actions that improve cost efficiency. From an RBV perspective, competitive advantage arises from organisational capabilities that transform available resources into superior outcomes rather than from the existence of administrative systems alone (Barney, 1991). Accordingly, this study conceptualises SCM as the mechanism through which budgeting information is converted into strategic resource allocation decisions that enhance cost efficiency.

➤ INDEPENDENT VARIABLE: BUDGETING SYSTEMS (BS)

Budgeting systems (BS) are defined as formal mechanisms used for financial planning, resource allocation, and performance control within organisations (Nazarova *et al.*, 2016). In academic institutions, they govern the distribution of funds across academic programs, research activities, and administrative functions (Barr & McClellan, 2018). Literature has operationalised BS using multidimensional constructs. Pimpong & Laryea (2016) and Agbenyo (2018) used budget planning, budget coordination, budget control, and budget evaluation to operationalise the budgeting variable. Chituru *et al.* (2022) measured budgeting in terms of budgetary planning (BPL), budget monitoring and control (BMC), participative budgeting (PBU), and budget motivation and communication (BMO).

In the context of HEIs, BS are conceptualised as integrated management control mechanisms that support financial planning, resource allocation, performance monitoring, and strategic decision-making. Accordingly, the construct may be operationalised through indicators such as strategic budget planning for academic programmes and research activities, participative involvement of departments in the budgeting process, budget monitoring and control, budget-related communication and motivation, and the flexibility of budgets to accommodate changing institutional priorities, thus reflecting both the structural and operational aspects of budgeting systems.

➤ MEDIATING VARIABLE: STRATEGIC COST MANAGEMENT (SCM)

Strategic Cost Management (SCM) is positioned as the central mediating variable in the framework. It represents the set of practices through which organisations analyse and manage costs in alignment with strategic objectives (Shank & Govindarajan, 1993). SCM involves the identification of cost drivers, evaluation of value-creating activities, and alignment of resource allocation with institutional priorities. It represents a shift from traditional cost control to strategic cost analysis. Techniques such as activity-based costing, target costing, value chain analysis, balance scorecard enable organisations to gain deeper insights into non-value-adding activities and cost inefficiencies (Cooper & Kaplan, 1988). In academic institutions, SCM can be applied to assess the cost-effectiveness of academic programs, optimise faculty and infrastructure utilisation, and improve administrative efficiency (Nazarova *et al.*, 2016; Ayam, 2024). By transforming budget-generated data into strategic insights, SCM can enable institutions to make informed decisions that enhance cost efficiency. Thus, SCM serves as the mechanism through which BS influence cost efficiency outcomes, bridging the gap between financial planning and strategic execution.

Empirical studies have measured SCM through the adoption and intensity of strategic techniques. For instance, Cooper and Kaplan (1988) emphasise activity-based costing as a key indicator, while later studies include target costing (Celayir, 2020), quality costing (Tambunan, 2024), life-cycle costing (Spickova & Myskova, 2015), and value chain analysis (Bhargava *et al.*, 2018) as core components. Chaikambang (1995) examined SCM's efficiency in terms of cost allocation effectiveness, value-added activity utilisation, customer service cost implementation, competitor's cost efficiency analysis and resource usage quality assessment. Rounaghi *et al.* (2021) analysed SCM through the extent to which cost information can be used to reduce cost stickiness and increase corporate sustainability. Overall, common measurement indicators include use of activity-based costing systems, extent of cost driver analysis, integration of cost information into strategic decisions, application of value chain analysis, or adoption of target costing or life-cycle costing. In HEIs, SCM may be assessed not only by the adoption of SCM practices but also by the extent to which cost information is systematically integrated into strategic planning, resource allocation, performance evaluation, and continuous improvement of teaching, research, and administrative functions.

➤ DEPENDENT VARIABLE: COST EFFICIENCY (CE)

Cost efficiency (CE) is defined as the optimal utilisation of resources to achieve desired outcomes while minimising waste and maintaining quality (Robst, 2001). In the context of educational institutions, CE is assessed by comparing resource inputs (such as funding and staff) with outputs such as student enrolment, completion rates, and academic delivery (Powell *et al.*, 2012; Salerno, 2003). Factors such as program design, faculty allocation, infrastructure utilisation, and administrative processes influence the CE of academic entities (Yu *et al.*, 2024). Therefore, the proposed framework includes CE as a direct outcome of effective integration between BS and SCM practices.

Recent studies have measured CE using both financial and operational indicators. Common measures include cost per student or cost per academic program (Swift, 2012; Namazi & Zare, 2021), operating efficiency ratios (Mensah & Werner, 2003), and/or Data Envelopment Analysis (DEA) for institutional efficiency (Jha & Jha, 2025). Among these, cost per student and cost per program directly capture the financial burden associated with delivering educational services, while operating efficiency ratios assess the institution's ability to control administrative and operational costs. DEA provides a more comprehensive perspective by evaluating how efficiently multiple inputs, such as faculty, infrastructure, and funding, are transformed into outputs like graduates, research publications, and academic performance. Together, these measures offer a balanced framework for assessing CE in HEIs by linking resource utilisation with educational outcomes.

➤ MODERATING VARIABLE: ORGANISATIONAL FLEXIBILITY (ORF)

Organisational flexibility (ORF) refers to the ability of an institution to adapt its structures, processes, and resource allocation in response to changing conditions (Gascoyne, 2019). The literature conceptualises flexibility across structural and operational dimensions and measures it through indicators such as variety of organisational capabilities, speed of response to environmental change and uncertainty, flexibility in terms of adapting to changing market structures, production and level of competitiveness, and ratio of selling, general and administrative expenses to sales (Trigeorgis & Lambertides, 2014; Al-Daouri & Atrach, 2020). In the education sector, it can be measured using parameters such as the ability to revise budgets, introduce new programs, and adjust resource allocation in response to changing institutional priorities due to shifts in funding, enrolment, and regulatory requirements.

The proposed framework incorporates ORF as a moderating variable based on Contingency Theory, which suggests that the effectiveness of management control systems depends on contextual alignment (Otley, 1980). Prior research indicates that flexible organisations are better able to utilise financial information and implement adaptive strategies, whereas rigid structures limit responsiveness and reduce system effectiveness (Kaur, 2024). Accordingly, organisational flexibility is proposed to strengthen the relationship between BS and SCM by enabling institutions to revise budgets, reallocate resources, and incorporate budget information into strategic decision-making as institutional priorities evolve. Conversely, rigid organisational structures may restrict these processes, thereby weakening the strategic application of budgeting information.

➤ MODERATING VARIABLE: CORPORATE GOVERNANCE (CG)

Corporate governance (CG) refers to the system that ensures accountability, transparency, and effective oversight in organisational decision-making (Banda & Mwange, 2023). CG proxies include Board's ownership, effectiveness, size and structure, its independence, CEO duality and Board's education and experience, existence of audit committees, transparency and disclosure practices, governance quality indices (Teixeira & Carvalho, 2024; Rahman & Khatun, 2017; Ali, 2018). In the context of educational institutions, De Silva & Armstrong (2012) have quantified CG using internal and external CG mechanisms. The external CG mechanism variable included the influence of regulatory authority, and internal CG mechanism variables were board size, board independence, role of standing committees, and board processes indicated by transparency in reporting and board meetings.

In the proposed model, CG is incorporated as a moderating variable based on its critical role in strengthening financial oversight and enhancing the effectiveness of managerial processes. Prior literature indicates that CG mechanisms, such as board oversight, audit committees, and accountability structures, improve the implementation and monitoring of strategic management practices (Jensen & Meckling, 1976; Wanyama, 2013; Mwangi, 2020). With respect to cost management, effective CG is proven to enhance transparency in resource allocation and strengthen monitoring of cost-related decisions (Nanka-Bruce, 2011). This role is particularly significant in educational institutions, where effective governance structures, including regulatory bodies, accreditation agencies, and governing councils, ensure that SCM practices are consistently monitored, transparently implemented, and aligned with institutional priorities. Consequently, stronger CG is expected to strengthen the positive effect of SCM on CE, whereas weak CG may limit its effectiveness.

➤ CONCEPTUAL MODEL

Figure 1 illustrates the proposed conceptual framework linking BS, SCM and CE within HEIs, while incorporating relevant contextual moderators. The model adopts a process-oriented structure, highlighting how financial planning mechanisms are translated into cost-efficiency outcomes through strategic cost practices.

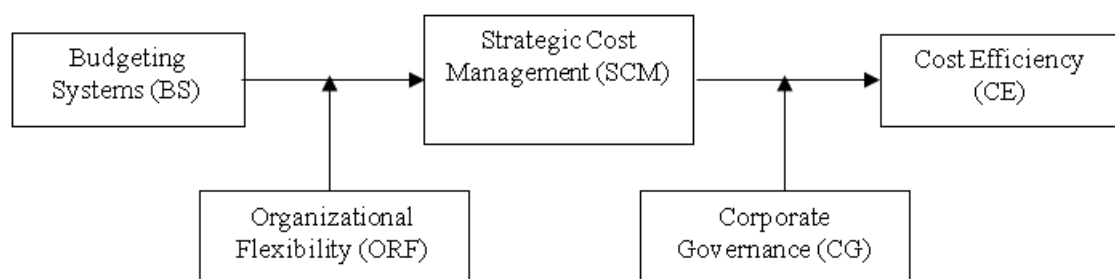


Figure 1: Conceptual Model proposed by the authors

As depicted in the figure, BS are positioned as the primary input variable. They provide structured financial information regarding resource allocation and expenditure patterns. Although BS contribute to expenditure control and resource allocation, these administrative functions alone are unlikely to generate sustained cost efficiency. Rather, the strategic value of budgeting lies in how budget-generated information is interpreted and utilised through SCM to improve resource allocation and eliminate inefficiencies. Therefore, SCM is positioned as a mediating construct that connects BS to CE. It represents the set of practices through which financial data is analysed and applied to support strategic decision-making. Through cost driver analysis, evaluation of academic and administrative activities, and alignment of resources with institutional priorities, SCM enables institutions to identify inefficiencies and improve resource utilisation. Further, CE is conceptualised as the outcome of the model. It captures the institution's ability to achieve desired outputs, such as

academic delivery and administrative performance, while minimising resource wastage. The model thus positions CE not as a direct result of financial planning, but as an outcome of effective integration between budgeting and strategic cost processes. Accordingly, the model proposes that BS influences CE indirectly through SCM.

The framework further incorporates two moderating variables that condition these relationships. ORF moderates the link between BS and SCM. As shown by the upward arrow, flexibility enhances the institution's ability to adapt budgeting practices, revise allocations, and effectively utilise financial information within strategic cost processes. In contrast, limited flexibility may weaken this linkage by restricting responsiveness. Similarly, CG moderates the relationship between SCM and CE. The model indicates that CG mechanisms, such as oversight structures and accountability systems, strengthen the implementation and monitoring of cost management practices. As a result, stronger CG enhances the extent to which SCM contributes to CE.

Overall, *Figure 1* depicts an integrated framework in which BS, mediated by SCM and conditioned by institutional characteristics, contribute to CE. The model provides a structured basis for understanding how financial planning can be aligned with strategic cost objectives to improve the cost efficiency of HEIs.

IMPLICATIONS OF THE STUDY

The study offers substantial implications in terms of theory and practice by advancing the understanding related to the application of SCM within HEIs. Focusing on cost efficiency, it makes a significant contribution to the literature on management control systems and strategic costing practices.

➤ THEORETICAL IMPLICATIONS

The research contributes to the literature in numerous ways. First, it expands research on budgeting systems by placing them within a wider strategic framework. Rather than viewing budgeting merely as a standard planning and control tool, the study emphasises its role in aiding strategic cost-related decision-making. This perspective discusses the fragmented analysis of budgeting and cost management in prior research.

Second, the study enriches management accounting literature by conceptualising SCM as a comprehensive process that links financial data with strategic outcomes. Previous literature has primarily focused on specific costing techniques; nevertheless, the present study shifts attention toward the strategic use of cost information, thus providing a more holistic understanding of SCM.

Third, the research utilises a multi-theoretical framework by incorporating the Resource-Based View, Contingency Theory, and Agency Theory. This integration offers a more thorough understanding of how financial systems function within intricate academic environments and addresses demands for theory-based models in management accounting studies.

Fourth, the inclusion of contextual factors such as organisational flexibility and corporate governance contributes to the growing literature on contingency-based approaches. It recognises that the effectiveness of financial and cost management approaches varies and is influenced by institutional traits and governance frameworks.

Finally, the study contributes to the scarce literature on cost management within educational institutions. By emphasising this context, it broadens the application of management accounting frameworks beyond the corporate environment and underscores the relevance of cost efficiency in resource-constrained environments.

➤ PRACTICAL IMPLICATIONS

The research offers several insights for practitioners involved in cost management within HEIs.

It highlights the limitations of depending exclusively on conventional budgeting methods. HEIs must shift from traditional budgeting methods to enhance the strategic application of financial information in their decision-making processes.

Secondly, the findings emphasise the importance of strengthening cost management skills among top authorities of academic institutions. This entails developing analytical skills, adopting appropriate costing techniques, and integrating cost factors into planning and resource allocation decisions.

Third, the study draws attention to the significance of CG frameworks in ensuring effective financial and cost management. Strengthening oversight systems, improving transparency, and enhancing accountability can promote more effective use of institutional resources.

Fourth, the importance of organisational flexibility suggests that institutions should establish adaptable administrative and financial processes. The ability to respond to changing conditions and reallocate resources efficiently is essential for enhancing cost outcomes.

Finally, the research provides a clear framework for decision-makers and institutional heads aiming to enhance financial sustainability. By emphasising cost efficiency rather than mere cost reduction, it aligns financial management practices with long-term institutional objectives.

FUTURE RESEARCH DIRECTIONS

The proposed framework provides various directions for future research. As the present study is conceptual, future studies can use quantitative techniques such as structural equation modelling to test the proposed relationships within academic institutions. Comparative analyses across different institutional settings, including public and private institutions or teaching- and research-oriented organisations, can further enhance understanding of contextual differences. Further, the devised model can be extended by incorporating variables such as digitalisation, leadership orientation, and organisational culture, which might influence the success of budgeting and cost management practices. Longitudinal studies can offer insights into how these practices change over time, particularly in response to policy changes, funding constraints, and technological advancements. Moreover, qualitative methods, including case studies and interviews, can provide profound insights into the dynamics involved in the application of SCM techniques, especially in relation to institutional structures and decision-making processes. Future research can also explore alternative measurement approaches for key constructs, particularly cost efficiency in academic settings, where standardised metrics are still scarce. Finally, extending the scope to examine cross-country differences and regulatory environments can provide a broader perspective on how institutional and policy contexts influence financial management practices in the education sector.

CONCLUSION

The study develops a theoretically grounded conceptual framework to determine how budgeting systems contribute to cost efficiency within HEIs, with SCM positioned as the mediating variable. Although budgeting systems contribute to expenditure discipline and financial control, these operational benefits alone are unlikely to generate sustained cost efficiency. The proposed framework therefore argues that SCM transforms budget-generated information into strategic resource allocation decisions that drive long-term efficiency improvements. The study addresses the increasing financial strains faced by HEIs and the need for more structured and effective utilisation of resources by concentrating specifically on cost efficiency. It makes a significant contribution by integrating budgeting and strategic cost perspectives, which have largely been examined in isolation in prior literature. In the process, it incorporates pertinent theoretical lenses, including the Resource-Based View, Contingency Theory, and Agency Theory, to provide a comprehensive explanation of the underlying relationships. The inclusion of ORF and CG further strengthens the framework by acknowledging the role of institutional context in shaping financial outcomes. These factors highlight that the effectiveness of budgeting and cost management practices is contingent upon the adaptability of organisational processes and corporate governance mechanisms.

While the present study is conceptual in nature, it establishes a structured foundation for future empirical validation of the proposed framework. Future studies may operationalise the conceptual relationships as testable hypotheses and examine the direct, mediating, and moderating effects using analytical techniques appropriate to the research design and data characteristics. To enhance the robustness of empirical findings, future studies should employ rigorous research designs that minimise common method bias by collecting data from multiple organisational respondents and, where feasible, using both survey responses and institutional financial data. The proposed framework can also be validated across diverse HEIs, including public and private institutions, teaching-oriented and research-intensive universities, and institutions with varying disciplinary profiles, to establish its generalisability. Furthermore, future studies may employ appropriate cost efficiency assessment approaches, including Data Envelopment Analysis (DEA), where suitable, provided that input-output specifications are theoretically justified and aligned with institutional objectives.

From a practical standpoint, the study underscores the need for institutions to move beyond conventional financial approaches and strengthen their capacity to utilise cost information strategically. Emphasis on adaptability, analytical capability, and governance structures is essential for improving financial discipline and achieving efficient outcomes. While the framework remains conceptual, it provides a structured foundation for future empirical research and offers relevant insights for both academicians and practitioners. Overall, the study reinforces the need to align budgeting systems with SCM practices to achieve sustained cost efficiency of HEIs.

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