



The impact of financial management practices on financial performance: Empirical evidence from a Ghanaian public university

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Abstract

This study investigates the impact of specific financial management practices on the financial performance of the University of Mines and Technology (UMaT), Ghana. This done by utilizing a mixed-methods approach. Data were collected from 55 staff in the Finance and Audit departments via questionnaires and semi-structured interviews. A Tobit regression model was employed to analyse the quantitative data, testing the influence of budgeting and budgetary control, financial reporting and transparency, internal controls and audit practices, and cash flow management on financial performance. The findings reveal that financial reporting and transparency ($\beta = 1.23, p = 0.001$), and cash flow management ($\beta = 1.05, p = 0.002$), have the most significant positive impact on financial performance. Budgeting and budgetary control showed a moderate positive effect, while internal controls had a weaker influence. The study, framed by the Resource-Based View and Contingency theories, concludes that enhancing transparency and cash flow efficiency are the most critical levers for improving financial health in public higher education institutions in developing contexts.

Keywords: Financial Management Practices; Financial Performance; Tobit; Regression; Ghana



1. Introduction

Higher educational systems in the developing countries are the main components for socioeconomic development and innovation. In fact, it addresses issues like youth unemployment, inequality, and sometimes climate change (Brundenius et al., 2009). However, up to this current age, 2025, universities of this part of the world are grappling with acute financial constraints that limit access, quality, and relevance. With Africa's tertiary gross enrolment rate at just 9%—far below the global 42%—and projections of doubling the number of secondary/tertiary completers to 240 million by 2040 (Pajankar and Nijhara, 2023), the funding gap exacerbates inequities and hampers growth. Public funding remains insufficient, often below UNESCO's recommended 26% of education budgets (Xancajo et al., 2021), forcing reliance on external aid, tuition, and private sources that introduce new vulnerabilities. These challenges are compounded by economic stagnation, post-pandemic recovery, and rising enrolment demands. Comparing these to the figures from the Ghanaian public universities, there is much more to desire.

There is therefore an urgent need for empirical evidence on Financial Management Practices (FMPs) within Ghanaian public universities (Ridder et al., 2006; Tetteh et al., 2021) due to increasing concerns about transparency, accountability, and efficient resource utilization. Public universities in Ghana rely heavily on government subventions and internally generated funds, yet challenges such as financial mismanagement, budget overruns, and inadequate reporting systems persist (Stanton and Stanton, 1998). Without solid empirical data, it becomes difficult to assess the effectiveness of current financial management systems or to design policies that promote sound financial governance. Empirical studies would provide evidence-based insights into how funds are planned, allocated, monitored, and controlled—offering a foundation for improving efficiency, ensuring compliance with financial regulations, and enhancing institutional sustainability (Stalebrink et al., 2003). Therefore, this study focuses on the effectiveness of the internal controls and audit practices in public universities, the cashflow management practices and influence of financial management practices on financial performance in public universities. This study contributes significantly to the existing body of knowledge on financial management practices and their impact on financial performance, particularly within the context of higher education institutions in Ghana. Furthermore, this study offers empirical evidence which supports theoretical frameworks in financial management, contributing to the academic discourse on best practices and their implementation.

2. Literature Review and Theoretical Framework

2.1 Literature Review

As asserted by Creswell (2021), a literature review enlightens the reader of the results of other studies that are closely related to the one being undertaken; and further provides a framework for establishing the importance of the study as well as a benchmark for comparing the results with



other works. Hence, this is concentrating on the conceptual review, theoretical framework, empirical review and conceptual framework.

2.1.1 Financial Management in Higher Education

Financial management in higher education encompasses the planning, organizing, directing, and controlling of financial activities and processes within educational institutions. It involves managing financial resources effectively to achieve the institution's goals and objectives, ensuring financial stability, and supporting academic excellence (Johnstone, 2016). Financial management in higher education is not merely about maintaining financial health but also about aligning financial strategies with the institution's academic mission, strategic priorities, and long-term sustainability (Bray, 2018). A critical component of financial management in higher education is the strategic allocation of resources. This includes budgeting, forecasting, and financial planning to ensure that funds are available for critical academic and administrative functions. Effective financial management practices ensure that institutions can meet their obligations, invest in infrastructure, support faculty and staff, and provide student services (Ciaran, 2017). It also involves managing various revenue streams, including tuition fees, government funding, research grants, donations, and endowments funds, which are essential for sustaining institutional operations.

Moreover, financial management in higher education involves robust financial reporting and transparency practices. Transparency in financial reporting ensures accountability to stakeholders, including students, parents, faculty, staff, government agencies, donors, and the public (Ryu, 2019). Accurate and timely financial reports and analyses provide a clear picture of the institution's financial health, facilitate informed decision-making, and build trust among stakeholders. This transparency is crucial for maintaining institutional credibility and securing ongoing financial support. Another vital aspect of financial management in higher education is the implementation of effective internal controls and audit practices. Internal controls are essential for safeguarding assets, preventing fraud, and ensuring compliance with regulations and policies (Pradhan and Ranjan, 2018). Regular audits, both internal and external, help identify areas of financial risk and inefficiencies, enabling institutions to take corrective actions. Together, these practices form the backbone of a sound financial management system that supports the sustainable growth and success of higher education institutions.

2.1.2 Budgeting and Budgetary Control Practices in Higher Education

Budgeting in higher education is a critical financial management practice that involves the allocation of resources to various academic and administrative units within an institution. It serves as a financial plan that outlines expected revenues and expenditures over a specific period, usually a fiscal year (Herman and Mitchell, 2017). The budgeting process in higher education is often complex due to the diverse funding sources, including tuition fees, government grants, donations,



and research funding, which must be balanced against the institution's operational and strategic needs. Effective budgeting practices ensure that resources are allocated in a manner that supports the institution's priorities and strategic goals. This involves a participatory process where different departments and units provide input on their financial needs and priorities (Jones and Wellman, 2016). A well-structured budgeting process helps institutions to allocate funds efficiently, prioritize spending, and ensure that critical areas such as academic programs, research, and student services receive adequate funding. Budgetary control, on the other hand, refers to the mechanisms and processes used to monitor actual financial performance against the budget. This involves regular tracking of expenditures, analyzing variances, and implementing corrective actions when necessary (Zietlow et al., 2018). Effective budgetary control ensures that institutions remain within their financial limits, avoid overspending, and can reallocate resources as needed to address emerging priorities or unexpected financial challenges.

However, budgeting and budgetary control in higher education also face several challenges. These include fluctuations in funding sources, such as changes in government policy or economic conditions that affect tuition revenue and donations (Massy, 2016). Additionally, higher education institutions often have to balance competing demands from various stakeholders, including faculty, students, and administrators, which can complicate the budgeting process. Despite these challenges, robust budgeting and budgetary control practices are essential for maintaining financial stability and achieving long-term institutional goals.

2.1.3 Best Practices in Budgeting

Budgeting in higher education institutions requires a strategic approach that aligns financial planning with institutional goals and priorities. One of the best practices is involving key stakeholders in the budgeting process to ensure a comprehensive understanding of the institution's needs and priorities (Herman and Mitchell, 2017). This participatory approach includes input from faculty, staff, administration, and sometimes even students, fostering a sense of ownership and accountability. By engaging various stakeholders, institutions can develop a more accurate and realistic budget that reflects the diverse needs of the academic community. Another best practice is implementing a multi-year budgeting framework that allows for long-term financial planning. Multi-year budgets help institutions anticipate future financial needs and challenges, enabling them to plan for major capital projects, faculty hires, and other significant expenses (Massy, 2016). This approach also provides a buffer against short-term fluctuations in revenue and expenses, promoting financial stability. Additionally, multi-year budgeting supports strategic initiatives by ensuring that funding is aligned with the institution's long-term goals and objectives. Regular monitoring and review of the budget throughout the fiscal year is also essential. This involves tracking actual expenditures against the budget, analyzing variances, and making necessary adjustments (Zietlow et al., 2018). Institutions should establish a robust budgetary control system that includes periodic financial reporting, variance analysis, and corrective action plans. This



continuous monitoring ensures that the institution remains on track financially and can respond promptly to unexpected financial developments or changes in revenue streams. Transparency and communication are crucial components of effective budgeting practices in higher education. Institutions should ensure that budgeting decisions and financial reports are communicated clearly and transparently to all stakeholders (Jones & Wellman, 2016). This transparency builds trust and ensures that stakeholders understand how resources are being allocated and why certain financial decisions are made. Clear communication also helps in managing expectations and addressing any concerns or misconceptions about the institution's financial health and priorities.

2.1.4 Financial Reporting and Transparency

Financial reporting and transparency are vital for maintaining accountability and trust in higher education institutions. Comprehensive and accurate financial reporting provides stakeholders with a clear picture of the institution's financial health, supporting informed decision-making and strategic planning (Lone and Bhat, 2022). Effective financial reporting includes the preparation of regular financial statements, such as balance sheets, income statements, and cash flow statements, which detail the institution's financial position and performance over a specific period. Adhering to established accounting standards and regulatory requirements is a best practice for financial reporting in higher education. Institutions should follow generally accepted accounting principles (GAAP) or other relevant standards to ensure consistency, accuracy, and comparability in their financial reports (Lukesi et al., 2021). Compliance with these standards not only enhances the credibility of financial reports but also ensures that the institution meets legal and regulatory obligations. Regular audits by external auditors further bolster the integrity of financial reports, providing an independent assessment of the institution's financial practices and controls.

Transparency in financial reporting goes beyond merely producing financial statements. It involves providing accessible and understandable financial information to all stakeholders, including faculty, staff, students, parents, donors, and regulatory bodies (Martinez and Andal, 2022). Institutions should publish annual financial reports and make them available on their websites, ensuring that stakeholders can easily access and review financial information. Additionally, conducting town hall meetings or financial briefings can help explain financial reports, address stakeholder questions, and foster an open dialogue about the institution's financial status and future plans. Effective financial reporting and transparency also involve proactive communication about financial challenges and strategies for addressing them. Institutions should be candid about financial difficulties and the measures being taken to mitigate them, such as cost-saving initiatives, fundraising efforts, or changes in tuition and fees (Mugove et al., 2021). This openness not only builds trust but also encourages stakeholder support and collaboration in finding solutions to financial challenges. By maintaining high standards of financial reporting and transparency, higher education institutions can enhance their financial stewardship and strengthen their overall governance.



2.1.5 Standards and Regulations for Financial Reporting

Financial reporting in higher education institutions is governed by a range of standards and regulations designed to ensure accuracy, transparency, and accountability. One key set of standards is the Generally Accepted Accounting Principles (GAAP), which provides a framework for consistent financial reporting across institutions. GAAP outlines specific procedures for recording and reporting financial transactions, which helps ensure that financial statements are reliable and comparable (Mathew and Kumar, 2022). Higher education institutions that adhere to GAAP can provide stakeholders with clear and standardized financial information. Another important regulatory framework is the Governmental Accounting Standards Board (GASB) standards, which apply to public colleges and universities. GASB establishes accounting and financial reporting standards for state and local governments, including public higher education institutions (Abdumannonovna, 2023a). These standards ensure that public institutions maintain transparency in their use of public funds and provide stakeholders with an accurate picture of their financial health. Compliance with GASB standards is essential for maintaining public trust and securing government funding.

Private colleges and universities often follow the Financial Accounting Standards Board (FASB) standards, which are similar to GAAP but tailored to the needs of private institutions. FASB standards provide guidelines for recognizing revenue, accounting for expenses, and reporting financial activities in a manner that reflects the institution's financial performance accurately (Herman and Mitchell, 2017). Adherence to FASB standards helps private institutions demonstrate financial integrity and accountability to donors, accrediting bodies, and other stakeholders. In addition to these standards, higher education institutions must also comply with federal regulations, such as those set by the U.S. Department of Education and the Internal Revenue Service (IRS). These regulations require institutions to provide detailed financial reports on the use of federal funds, tuition revenue, and other financial activities (Bray, 2018). Compliance with federal regulations is critical for institutions to remain eligible for federal funding and maintain their tax-exempt status. Non-compliance can result in financial penalties and loss of funding, making it imperative for institutions to adhere to all relevant standards and regulations.

2.1.6 Best Practices in Financial Reporting and Transparency

Effective financial reporting and transparency are essential for building trust and credibility with stakeholders in higher education institutions. One best practice is the regular publication of comprehensive financial statements, including balance sheets, income statements, and cash flow statements (Jones and Wellman, 2016). These reports should be prepared in accordance with established accounting standards, such as GAAP, GASB, or FASB, to ensure consistency and reliability. Regular financial reporting provides stakeholders with up-to-date information on the institution's financial status and performance. Another best practice is the implementation of robust internal controls to ensure the accuracy and integrity of financial reporting. Internal controls



include policies and procedures for approving expenditures, reconciling accounts, and conducting internal audits (Herman & Mitchell, 2017). These controls help prevent errors and fraud, ensuring that financial reports accurately reflect the institution's financial activities. Regular internal audits and reviews of financial processes can identify areas for improvement and enhance overall financial governance.

Transparency in financial reporting also involves clear and open communication with stakeholders about the institution's financial health and strategic priorities. Institutions should provide detailed explanations of financial statements, including notes that clarify significant accounting policies and potential financial risks (Zietlow et al., 2018). Additionally, conducting town hall meetings or financial briefings can help stakeholders understand the institution's financial position and future plans. Transparent communication fosters trust and ensures that stakeholders are well-informed and engaged. Finally, leveraging technology can enhance financial reporting and transparency. Many higher education institutions are adopting financial management software that automates reporting processes, improves accuracy, and provides real-time financial data (Bray, 2018). These systems can generate detailed financial reports quickly and efficiently, allowing institutions to respond promptly to financial inquiries and share information with stakeholders. By integrating technology into financial reporting, institutions can improve efficiency, accuracy, and transparency, ultimately strengthening their financial management practices.

2.2 Theoretical Framework

2.2.1 Resource-Base View Theory

The Resource-Based View (RBV) theory posits that an organization's competitive advantage is derived from its unique resources and capabilities, which are valuable, rare, inimitable, and non-substitutable (Barney, 1991). This theoretical framework emphasizes the internal resources of an organization rather than external factors as the primary source of sustainable competitive advantage. In the context of higher education institutions, such as the University of Mines and Technology (UMaT), these resources can include financial resources, human capital, technological infrastructure, and institutional knowledge. By effectively managing and leveraging these resources, UMaT can enhance its financial performance and overall institutional effectiveness. Financial Management Practices (FMPs) are critical to the effective utilization of an institution's financial resources, aligning with the RBV theory's focus on leveraging internal capabilities for competitive advantage. Budgeting and budgetary control, for instance, enable UMaT to allocate resources efficiently, prioritize strategic initiatives, and monitor financial performance against set objectives (Turumova and Tolibboyev, 2023). Effective budgeting ensures that financial resources are directed towards high-impact areas such as research, infrastructure development, and student services, thereby improving the institution's financial stability and academic reputation.



Financial reporting and transparency are also vital components of FMPs that align with the RBV theory. Transparent financial reporting provides stakeholders with accurate and timely information about the institution's financial health, fostering trust and accountability (Abrantes-Braga and Veludo-De-Oliveira, 2019). At UMaT, adopting robust financial reporting practices ensures that financial statements are clear, comprehensive, and compliant with regulatory standards. This transparency enhances stakeholder confidence, which can lead to increased funding opportunities, donor contributions, and improved financial performance. Internal controls and audit practices further reinforce the principles of the RBV theory by safeguarding UMaT's financial resources and ensuring their optimal use. Effective internal controls prevent fraud, errors, and mismanagement of funds, while regular audits provide an objective assessment of financial practices and identify areas for improvement (Simons, 2019). By maintaining strong internal controls and audit systems, UMaT can ensure the integrity of its financial operations, minimize risks, and enhance its financial performance through improved efficiency and accountability.

Cash flow management, as part of FMPs, directly impacts UMaT's financial performance by ensuring that the institution has sufficient liquidity to meet its operational needs. Effective cash flow management practices involve monitoring cash inflows and outflows, optimizing working capital, and planning for future financial requirements (Hillier et al., 2010). For UMaT, managing cash flow efficiently enables the institution to maintain smooth operations, invest in strategic initiatives, and respond to unforeseen financial challenges. This proactive approach to cash flow management supports the institution's long-term financial sustainability and competitive positioning. Overall, the Resource-Based View theory provides a robust framework for understanding how Financial Management Practices can enhance the financial performance of higher education institutions like UMaT. By effectively managing and leveraging internal financial resources through budgeting, financial reporting, internal controls, and cash flow management, UMaT can achieve a sustainable competitive advantage. These practices ensure that the institution's financial resources are utilized efficiently, transparently, and strategically, leading to improved financial health and overall institutional success.

2.2.2 Contingency Theory

The contingency theory posits that there is no single best way to manage an organization; instead, the optimal course of action depends on the internal and external situation at hand (Lukesi et al., 2021). This theory emphasizes the importance of flexibility and adaptability, suggesting that organizational success is contingent upon the alignment between the organization's management practices and the specific circumstances it faces. In the context of financial management, this means that institutions must tailor their financial practices to fit their unique environment and challenges. At the University of Mines and Technology (UMaT), the application of contingency theory can significantly enhance financial performance. By recognizing that financial management practices must be adapted to the institution's specific context, UMaT can better navigate the



complexities of higher education funding, resource allocation, and financial planning. For instance, UMaT's budgeting and budgetary control practices should be flexible enough to accommodate changes in funding sources, student enrollment numbers, and economic conditions. A rigid budgeting system may not be effective in a dynamic environment where financial variables frequently change. Financial reporting and transparency practices at UMaT can also benefit from a contingency approach. The level of detail and frequency of financial reports should be aligned with the needs of various stakeholders, including government bodies, donors, and internal management. For example, during periods of significant financial uncertainty or when major financial decisions are being made, more frequent and detailed reporting may be necessary to ensure all stakeholders are adequately informed and can respond appropriately (Feruza, 2023). This adaptability in financial reporting helps maintain trust and accountability, which are critical for securing continued support and funding.

Internal controls and audit practices are another area where contingency theory can be applied at UMaT. The design and implementation of internal controls should consider the institution's specific risks and operational challenges. For instance, during times of financial austerity, UMaT may need to implement stricter controls to prevent fraud and mismanagement of funds. Conversely, during periods of financial stability, the institution might focus on optimizing processes and reducing unnecessary controls that could hinder efficiency (Donaldson, 2021). By tailoring internal controls to the current context, UMaT can ensure that its financial management practices are both effective and efficient. Cash flow management at UMaT can also be improved through the principles of contingency theory. Effective cash flow management requires a thorough understanding of the institution's revenue cycles, expenditure patterns, and potential financial risks. UMaT must be able to adjust its cash flow strategies in response to fluctuations in income, unexpected expenses, or changes in financial policy. For example, during a period of reduced government funding, UMaT might need to prioritize liquidity and short-term financial stability over long-term investments. By aligning cash flow management practices with the current financial environment, UMaT can maintain financial stability and avoid liquidity crises (Hayes, 1977).

Overall, the contingency theory provides a valuable framework for enhancing financial management practices and financial performance at the University of Mines and Technology. By acknowledging that there is no one-size-fits-all approach to financial management, UMaT can tailor its budgeting, financial reporting, internal controls, and cash flow management practices to fit its unique circumstances. This flexibility and adaptability are crucial for navigating the complex and ever-changing financial landscape of higher education, ultimately leading to improved financial performance and institutional success.



2.2.3 *Empirical Review*

The relationship between financial management practices and financial performance has been a subject of extensive research in the global, African and the Ghanaian context. Various studies have employed different methodologies to examine this relationship, providing valuable insights into how effective financial management can enhance organizational performance. Smith and Brown (2018) conducted a survey of 300 SMEs across five countries and concluded that robust budgeting and financial planning practices significantly improve profitability. While the study's large geographic scope offers a broad view, its reliance on self-reported data may introduce bias, as firms often report better financial practices in hindsight. Additionally, the survey format provides breadth but lacks the depth to explore specific regional or industry nuances that might affect financial management outcomes. In contrast, Johnson et al. (2019) utilized a mixed-methods approach that combined surveys with case studies of large U.S. corporations. Their findings highlighted the importance of financial transparency in enhancing stakeholder confidence and investment. While the mixed-methods approach strengthens the study's validity by providing both quantitative and qualitative insights, the focus on large corporations limits its applicability to smaller firms, especially those in developing economies that face more resource constraints.

Lee and Wong (2020) employed a longitudinal analysis to study the impact of internal controls on manufacturing firms in Asia. The study found that strong internal controls reduce financial fraud and improve profitability. The strength of the longitudinal approach is its ability to track changes over time, offering more reliable data. However, its focus on manufacturing limits the generalizability of the findings to other sectors, such as service-based industries, which operate under different financial management requirements. Garcia and Martinez (2017) examined the role of cash flow management in business success, analyzing financial data from 200 businesses in Europe. The study demonstrated a strong correlation between effective cash flow management and business continuity, particularly during economic downturns. While the study provides solid empirical evidence, it focuses solely on European businesses, limiting its relevance to regions with more volatile economies or different access to financial resources, such as those in developing countries. Chen and Zhao (2021) provided a global perspective on financial management by conducting a comparative analysis of multinational corporations across continents. Their study found that companies adopting best practices in budgeting, financial reporting, and internal controls consistently outperformed their peers. However, while the study is insightful for large multinationals, it overlooks the resource limitations that smaller firms or companies in less developed regions might face in adopting such comprehensive financial management practices.

Wilson and Adams (2019) performed a meta-analysis of 50 studies, emphasizing the universal applicability of sound financial management practices, such as budgeting, internal controls, and cash flow management, across industries. While meta-analyses provide comprehensive overviews, they often lack the granularity needed to address specific sectoral or regional challenges. The broad



scope of this study means it may overlook critical local factors that influence financial management success in specific contexts. Lastly, Thompson and Richards (2018) used case studies of universities across three continents to explore the role of financial management in higher education. They found that detailed budgeting and transparent reporting were critical for financial stability. While the case study approach allows for in-depth analysis, the focus on higher education may limit the transferability of the findings to more dynamic industries, where financial management practices may need to adapt to rapid changes in market conditions.

In Africa, Adeyemi and Oke (2017) surveyed 250 SMEs in Nigeria and found that structured financial management practices, particularly budgeting and financial planning, were crucial for profitability. However, the reliance on self-reported data introduces potential bias, and the study does not account for external challenges like regulatory and market instability that might affect financial performance in Nigerian SMEs. Mensah and Gyamfi (2018), using a mixed-methods approach, examined large corporations in Ghana and concluded that transparent financial reporting enhances investor confidence and improves financial performance. While the study's findings align with global trends, it primarily focuses on large corporations, limiting its relevance to smaller firms that may lack the resources to implement similar levels of transparency. Waweru and Mutiso (2019) conducted a longitudinal study of Kenyan manufacturing firms and found that robust internal controls were associated with reduced financial fraud and higher profitability. Although the study's longitudinal design provides strong evidence, its narrow focus on manufacturing limits the applicability of the findings to other sectors, such as technology or services, which may face different financial management challenges.

Moyo and Dlamini (2018) analyzed the role of cash flow management in the sustainability of 150 SMEs in South Africa. The study demonstrated that effective cash flow management was crucial for survival, particularly during economic downturns. However, the study does not explore how external financing or macroeconomic conditions might impact cash flow, leaving gaps in understanding how SMEs can navigate broader financial challenges. Mbatha and Nkosi (2020) examined best practices in financial management among African multinational corporations. Their comparative analysis found that adopting best practices in budgeting, reporting, and internal controls significantly improved financial performance. However, the study focuses on large firms and overlooks the realities of smaller companies that may lack the resources to implement such comprehensive practices. Kato and Nsubuga (2017) studied financial management in Ugandan universities using a case study approach, finding that detailed budgeting and transparent reporting were essential for financial stability. While the study provides in-depth insights into the higher education sector, its findings may not be transferable to more profit-driven sectors, such as private enterprises.

Lastly, Abebe and Assefa (2019) performed a meta-analysis of 40 studies across Africa, finding that budgeting, financial reporting, internal controls, and cash flow management were universally



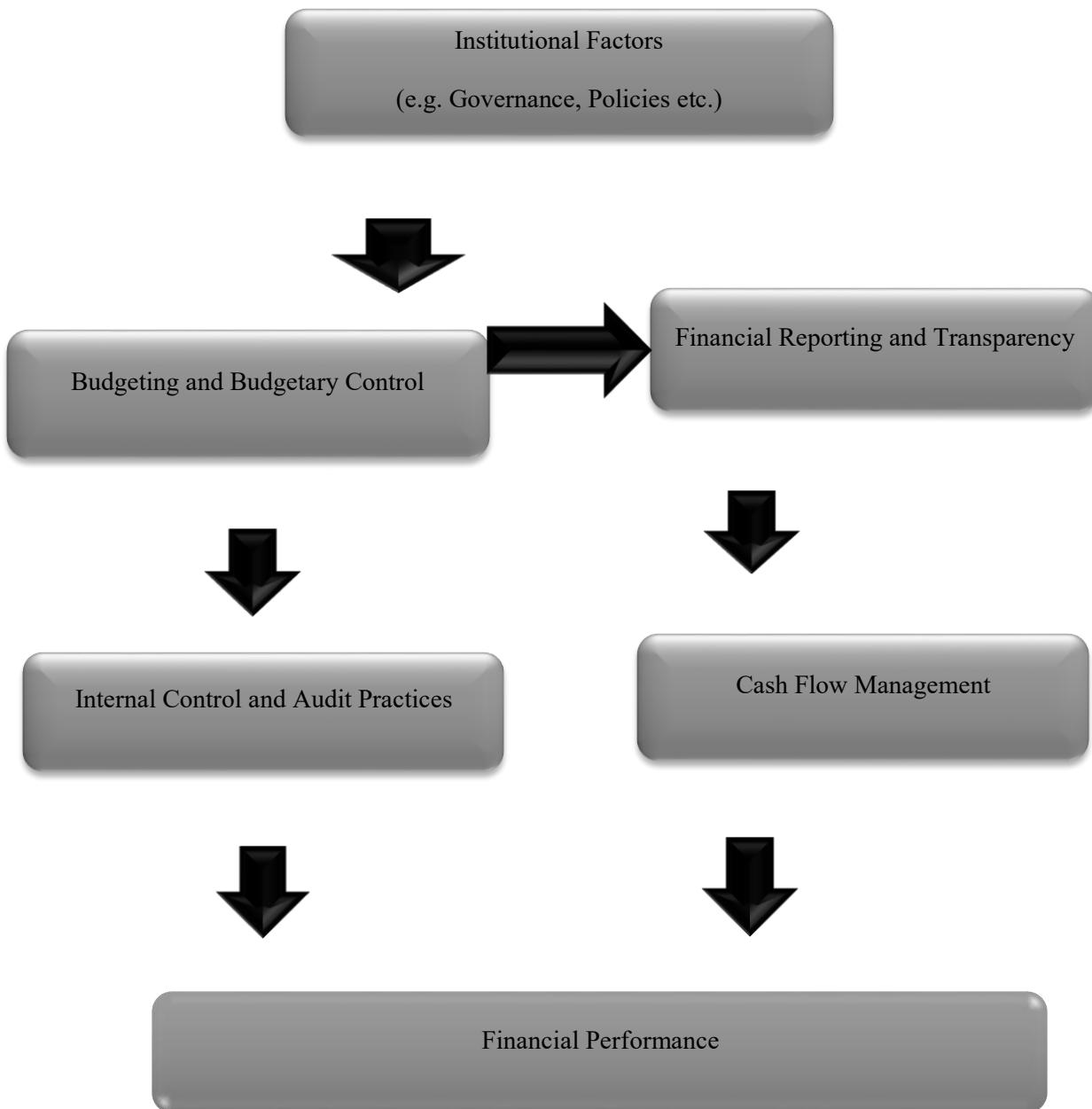
beneficial for enhancing corporate performance. While the meta-analysis provides a broad overview, it lacks sector-specific insights that could offer more actionable recommendations for different industries. Adomako and Danso (2017) surveyed 200 SMEs in Ghana and concluded that firms with formal budgeting and financial planning practices experienced higher profitability. While the study is valuable for SMEs, it overlooks external challenges such as regulatory constraints and market volatility that may affect financial performance in Ghana. Owusu and Boateng (2018) used a mixed-methods approach to study Ghanaian banks, finding that transparent financial reporting increases customer confidence and improves financial performance. While the study's focus on banks is useful, it may not be directly applicable to smaller financial institutions that face different operational and regulatory challenges.

Ofori and Asamoah (2019) examined internal controls in Ghanaian manufacturing firms using longitudinal data. Their findings that robust internal controls reduce financial fraud and increase profitability are consistent with studies in other regions, though the focus on manufacturing limits the applicability of the results to other industries. Tetteh and Kwarteng (2018) analyzed cash flow management in 150 SMEs in Ghana, finding that effective cash flow management is crucial for business sustainability. While the study provides useful insights for SMEs, it does not consider broader economic factors, such as inflation or interest rates, which can significantly affect cash flow. Agyapong and Ankomah (2020) studied Ghanaian multinational corporations and found that adopting global best practices in financial management improves performance. However, the study focuses on large firms, and its findings may not be applicable to smaller companies with fewer resources. Mensah and Adjei (2017) examined financial management in Ghanaian universities and found that detailed budgeting and transparent reporting were essential for financial stability. While the study is relevant to the education sector, its findings may not translate to other industries, particularly those that operate in more dynamic financial environments. Lastly, Akoto and Obeng (2019) conducted a meta-analysis of 35 studies from various sectors in Ghana and concluded that sound financial management practices consistently improve corporate performance. However, the broad scope of the study may overlook the specific challenges faced by different industries.

2.2.4 Conceptual Framework

The conceptual framework aims to illustrate the relationship between financial management practices and financial performance at UMaT. It highlights the independent variables (budgeting and budgetary control, financial reporting and transparency, internal controls and audit practices, and cash flow management) and their impact on the dependent variable (financial performance).

Figure 1. Conceptual Framework



Source: developed by the authors.



1. Budgeting and Budgetary Control → Financial Performance

Budgeting and budgetary control involve the meticulous planning, allocation, and monitoring of financial resources. Effective budgeting ensures that UMaT allocates its resources efficiently to various departments and projects based on priorities and strategic objectives. Proper budgetary control practices ensure that expenditures are monitored and managed against the budget, preventing overspending and resource wastage. Robust budgeting and budgetary control practices lead to improved resource allocation, optimal use of funds, and enhanced financial performance by ensuring that the university's financial resources are utilized effectively and align with its strategic goals.

2. Financial Reporting and Transparency → Financial Performance

Financial reporting and transparency involve the accurate and timely disclosure of financial information to stakeholders, including students, faculty, government bodies, and donors. Transparent financial reporting fosters trust and confidence among stakeholders, which is crucial for securing funding and investment. Transparent and accurate financial reporting practices enhance stakeholder confidence, leading to increased investment, better decision-making, and improved financial performance by ensuring accountability and demonstrating financial health.

3. Internal Controls and Audit Practices → Financial Performance

Internal controls and audit practices encompass the mechanisms put in place to monitor, regulate, and audit financial transactions and processes. These practices ensure compliance with legal and regulatory requirements, mitigate risks of fraud, and promote operational efficiency. Effective internal controls and audit practices reduce the risk of financial fraud, ensure regulatory compliance, and enhance financial stability, thereby improving financial performance by safeguarding assets and ensuring the integrity of financial operations.

4. Cash Flow Management → Financial Performance

Cash flow management involves the oversight of cash inflows and outflows to maintain sufficient liquidity for operational needs. Effective cash flow management ensures that the university can meet its short-term obligations and invest in long-term projects. Efficient cash flow management practices ensure liquidity, operational continuity, and the ability to invest in strategic initiatives, thus enhancing financial performance by preventing liquidity crises and enabling sustainable growth.

5. Intervening Variable: Institutional Factors

Institutional factors such as governance structure, management policies, and resource availability can moderate the relationship between financial management practices and financial performance. These factors influence how effectively financial management practices are implemented and sustained within the university.



6. Moderating Effect:

The presence of supportive governance structures, sound management policies, and adequate resources can enhance the effectiveness of financial management practices, leading to better financial performance. Conversely, weak governance, poor management policies, and resource constraints can impede the effectiveness of these practices.

3. Methodology

This gives an overview of the research methodology that was employed to investigate financial management practices and financial performance. The research approach, research design, study setting, population size, sample size, data collection instruments etc. are discussed to ensure a comprehensive and rigorous study.

3.1 Research Approach and Design

This study adopted the quantitative approach of research methods to provide a comprehensive understanding of the relationship between financial management practices and financial performance at the University of Mines and Technology (UMaT) in Ghana. These methods of approach were advantageous because they allowed for the collection of robust data, facilitating the triangulation of results and enhancing the validity and reliability of the findings (Creswell and Plano Clark, 2018). These quantitative methods were employed to gather numerical data that could be statistically analyzed and produce the results for the achievement of the set objectives. The research design for this study was descriptive and explanatory. The descriptive aspect aimed to outline the current financial management practices at UMaT, while the explanatory component sought to examine how these practices impacted the university's financial performance. The study utilized surveys and semi-structured interviews as the primary data collection methods. Surveys were used to collect quantitative data from employees in the Finance and Audit departments, focusing on their perceptions and experiences with financial management practices. Semi-structured interviews were conducted to gather qualitative data, providing deeper insights into the practices and challenges faced by these departments. The combination of these methods allowed for a comprehensive analysis of the data, ensuring that the findings were both detailed and contextually relevant (Saunders, Lewis and Thornhill, 2019).

3.2 Sample Size

In this study, the entire population of the Finance and Audit departments at the University of Mines and Technology (UMaT) was considered. This population totaled 55 individuals, including accountants, auditors, financial analysts, budget officers, and other staff members involved in financial management and auditing processes. Using a census approach for this manageable population size ensured comprehensive data collection, capturing the perspectives of all relevant personnel without the biases and sampling errors that can occur with smaller samples (Krejcie and Morgan, 2018). The census approach is particularly suitable for studies where the population size



is small and manageable, as it allowed for the inclusion of all members of the target group, thereby the reliability and validity of the findings (Saunders, Lewis, & Thornhill, 2019). A detailed breakdown of the sample size, representing various roles within the Finance and Audit departments, is provided in the table below. This table ensured clarity on the distribution of different roles and aided in understanding the scope of data collection.

Table 1. Sample Size

| Role | Number of Individuals |
|-----------------------|-----------------------|
| Accountants | 20 |
| Auditors | 10 |
| Financial Analysts | 8 |
| Budget Officers | 7 |
| Other Financial Staff | 10 |
| Total | 55 |

Source: authors' own work

3.3 Sampling Technique

For this study, a census approach was employed, where all employees within the Finance and Audit departments at the University of Mines and Technology (UMaT), totaling 55 individuals, were included. This approach ensured that every member of the population was considered, which was suitable given the manageable size of the target group (Krejcie and Morgan, 2018). By including all accountants, auditors, financial analysts, budget officers, and other relevant staff, the study aimed to obtain comprehensive and accurate insights into the financial management practices and their impact on financial performance at UMaT (Saunders, Lewis, & Thornhill, 2019).

3.4 Data Collection Instruments

Data was collected using a mixed-method approach, combining quantitative and qualitative instruments. Quantitative data was gathered through structured questionnaires, which included Likert scale questions to measure various aspects of financial management practices and financial performance. Qualitative data was obtained through semi-structured interviews with key personnel, such as senior accountants and auditors, to gain deeper insights into the practices and their perceived impacts (Creswell and Plano Clark, 2018). Questionnaires: These were designed to capture data on financial management practices, including budgeting, financial reporting, internal controls, and cash flow management, as well as financial performance indicators such as profitability, growth rates, and financial stability. Semi-Structured Interviews: These provided



qualitative insights into the effectiveness of financial management practices, challenges faced, and strategies for improvement. Interview guides ensured that key topics were covered while allowing flexibility for respondents to share their experiences in detail.

3.5 Validity and Reliability of Instruments

To ensure validity and reliability, the data collection instruments underwent a rigorous development and testing process. Experts in financial management and higher education administration reviewed the questionnaires and interview guides to ensure that they covered all relevant aspects of financial management practices and financial performance (Bryman, 2016). The instruments were pre-tested with a small sample of staff from similar institutions to ensure that the questions were clear and measured the intended constructs. The reliability of the questionnaires was assessed using Cronbach's alpha to ensure internal consistency. A Cronbach's alpha value of 0.7 or higher was considered acceptable (Tavakol and Dennick, 2018).

3.6 Data Collection Procedures

The data collection process involved several steps to ensure thorough and accurate data gathering: Necessary approvals were obtained from UMaT administration and ethical review boards. Research assistants were trained on the data collection process and ensured they understood the instruments and ethical considerations. Questionnaires were distributed to all 55 employees in the Finance and Audit departments, either in person or via email. Participants were given two weeks to complete and return the questionnaires. Semi-structured interviews were scheduled with selected key personnel. Each interview lasted approximately 30-45 minutes and was conducted either face-to-face or via video conferencing, depending on the availability and preference of the participants. The entire data collection process took four to six weeks, including preparation, distribution, follow-up, and interviews.

3.7 Presentation of Data and Analysis

Data was analyzed using both quantitative and qualitative methods to provide a comprehensive understanding of the findings: Quantitative Data Analysis: The data from the questionnaires was entered into statistical software (e.g., SPSS) for analysis. Descriptive statistics (mean, median, standard deviation) were used to summarize the data. Inferential statistics (regression analysis, correlation) were applied to test hypotheses and examine relationships between financial management practices and financial performance (Creswell, 2019). Qualitative Data Analysis: The interview transcripts were analyzed using thematic analysis to identify common themes and patterns related to financial management practices and their impacts. NVivo software was used to assist in coding and organizing the qualitative data (Braun and Clarke, 2018).



3.7.1 Correlation Analysis

Correlation analysis evaluates the degree of association or relationship between variables and determines the direction of this relationship. The correlation coefficient, indicating the strength of the relationship, ranges from +1 to -1. A value of ± 1 signifies a perfect association, while a value approaching 0 suggests a weaker relationship. The sign of the coefficient signifies the direction of the relationship; a positive (+) sign indicates a perfect positive correlation, and a negative (-) sign indicates a perfect negative correlation. A correlation coefficient of zero (0) implies no correlation between the variables being studied. As the value of the correlation coefficient approaches 1, the positive impact strengthens. Conversely, a value approaching -1 indicates a stronger negative impact. Statistical analyses commonly involve four types of correlations: Pearson correlation, Kendall rank correlation, Spearman correlation, and the Point-Biserial correlation. These correlations are calculated using the formula provided in Equation 1.

$$r = \frac{n \sum xy - \sum x \sum y}{\sqrt{(n \sum x^2 - (\sum x)^2)(n \sum y^2 - (\sum y)^2)}} \quad (1)$$

Where, x and y are values of variables, and n is the sample size.

3.7.2 Tobit Regression Model

The Tobit regression model, commonly referred to as a censored regression model, is utilized to accommodate instances of left and/or right censoring in the dependent variable, denoted as censoring from below and above, respectively. Censoring from above occurs when cases with a value at or surpassing a specific threshold all assume the value of that threshold. In such cases, the actual value may be equal to the threshold or potentially higher. Conversely, censoring from below involves values that are censored if they fall at or below certain thresholds. In this research, the Tobit regression model is chosen because the dependent variable is continuous and ranges from zero to 4. The Tobit model is also applied to characterize the discontinuous distribution and elucidate the conditional distribution of the dependent variable. The structural equation in the Tobit model is as in Equation 2:

$$y_i = X_i \beta + \epsilon_i \quad (2)$$

$\epsilon_i \sim N(0, \sigma^2)$ y^* is a latent variable that is observed for values greater than τ and censored otherwise. The observed y is defined by the following measurement in Equation 3:

$$y = \begin{cases} y^* & \text{if } y^* > \tau \\ \tau_y & \text{if } y^* < \tau \end{cases} \quad (3)$$



In a typical Tobit model, we assume that $\tau=0$, that is, the data are censored at zero (0), as is the case in this study. Thus, we have in Equation 4:

$$y = \begin{cases} y^* & \text{if } y^* > 0 \\ \tau_y & \text{if } y^* \leq 0 \end{cases} \quad (4)$$

The likelihood function for the censored normal distribution is as in Equation 5:

$$L = \prod_i^N \left[\frac{1}{\sigma} \phi \left(\frac{y - \mu}{\sigma} \right) \right]^{di} \left[1 - \Phi \left(\frac{\mu - \tau}{\sigma} \right) \right]^{1-di} \quad (3.5)$$

Where τ is the censoring point. In the traditional Tobit model, we set $\tau=0$ and the parametrize μ as $X_i \beta$. This gives the Likelihood function for the Tobit model as in Equation 6:

$$L = \prod_i^N \left[\frac{1}{\sigma} \phi \left(\frac{y - X_i \beta}{\sigma} \right) \right]^{di} \left[1 - \Phi \left(\frac{X_i \beta}{\sigma} \right) \right]^{1-di} \quad (3.6)$$

The Log-likelihood function for the Tobit model becomes Equation 7:

$$\ln L = \sum_{i=1}^N \{ d_i (-\ln \sigma + \ln \phi \left(\frac{y - X_i \beta}{\sigma} \right)) + (1 - d_i) \ln (1 - \Phi \left(\frac{X_i \beta}{\sigma} \right)) \} \quad (3.7)$$

Notice must be made that the general likelihood is comprised of two sections. The first segment corresponds to the initial regression for uncensored observations, while the subsequent part relates to the important probabilities that the observation is censored. It should be noticed that Tobit regression coefficients are interpreted comparatively to the OLS regression coefficient. However, the linear impact is on the uncensored dormant variable, and not the observed outcome.

3.7.3 Model Specification

The model specification is multiple linear regression in nature. In multiple linear regression, there are p explanatory variables, and the relationship between the dependent variable and the explanatory variables is represented by the following Equation 8:

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \varepsilon_i \quad (8)$$



Where, Y is Financial Performance; β_0 is the Constant term; β_1 to β_{10} , are the coefficients of the variables, X_1 is Budgeting and Budgetary Control; X_2 is Financial Reporting and Transparency; X_3 is Internal Controls and Audit Practices; X_4 is Cash Flow Management; X_5 is Age; X_6 is Gender; X_7 is educational level; and e_i is the error term.

3.7.4 Ethical Considerations

Ethical considerations were paramount in this study to ensure the integrity and confidentiality of the research process. Participants were provided with detailed information about the study's purpose, procedures, and their rights as participants. Informed consent was obtained from all participants before data collection began. All data collected was kept confidential and used solely for research purposes. Participants' identities were anonymized in all reports and publications. Participation in the study was entirely voluntary, and participants could withdraw at any time without any negative consequences. Data was securely stored in password-protected files, and only the research team had access to the raw data. Data was retained for a period required by institutional guidelines and then securely disposed of. By adhering to these ethical guidelines, the study aimed to ensure the protection and respect of all participants while maintaining the highest standards of research integrity (Israel and Hay, 2018).

4. Results and Discussion

The journey through this study has led us to a pivotal point where the findings are unveiled and the implications of these findings are thoroughly explored. In this chapter, we delve into the outcomes of our research efforts, unraveling the insights that shed light on the intricate relationship between the dependent and independent variables of the study.

4.1 Validity and Reliability Tests

4.1.1 Test of Validity

The validity of the data was conducted in a serene scientific atmosphere which is graduated in Table 2.

Table 2. Content Validity Index Result

| S/N | Experts | Number of Valid Items | Number of Items | CVI | Remark |
|---------|------------|-----------------------|-----------------|------|------------|
| 1 | Assessor 1 | 35 | 38 | 0.92 | |
| 2 | Assessor 2 | 37 | 38 | 0.97 | |
| 3 | Assessor 3 | 36 | 38 | 0.95 | |
| Overall | | | | 0.94 | Acceptable |



Source: authors own work.

The results in Table 2 present the CVI for the instrument used in this study, evaluated by three experts. In the case of Assessor 1, out of 38 items, 35 were deemed valid, resulting in a CVI of 0.92. This score indicates that the majority of the items were considered relevant and appropriate for measuring the construct. Similarly, Assessor 2 found 37 of the 38 items valid, yielding a CVI of 0.97. This near-perfect score suggests a very strong agreement that the instrument's content is highly valid. Assessor 3 evaluated 36 valid items out of the total 38, producing a CVI of 0.95, further indicating that the instrument's items are highly appropriate. When considering the overall CVI, which is calculated as the average of the individual assessors' CVIs, the result is 0.94. This value is well above the generally accepted threshold of 0.80 for content validity, with values above 0.90 typically considered excellent. Thus, the overall CVI of 0.94 confirms that the instrument demonstrates strong content validity. It suggests that the items in the instrument effectively capture the intended content domain and that the experts largely agreed on the relevance and appropriateness of the items. The high CVI values across all assessors suggest that the instrument is well-designed for its intended purpose, with minimal need for revisions or eliminations of items. The consistency among the experts, as reflected in the high individual CVIs, reinforces the robustness of the instrument in accurately measuring the construct under investigation. In conclusion, the content validity of the instrument is acceptable, with an overall CVI of 0.94. This high level of agreement among the assessors indicates that the instrument's items are valid, relevant, and effectively reflect the construct being measured.

4.1.2 Test of Reliability

The validity of the data was conducted in a serene scientific atmosphere which is graduated in Table 3.

Table 3. Composite Reliability for Each Construct

| S/N | Questionnaire Constructs | Composite Reliability | Number of Items | Remark |
|-----|--|-----------------------|-----------------|----------|
| 1 | Demographics | 0.886 | 8 | Reliable |
| 2 | The Current Budgeting and Budgetary Control Practices at UMaT | 0.982 | 10 | Reliable |
| 3 | The Effectiveness of Internal Controls and Audit Practices at UMaT | 0.987 | 10 | Reliable |
| 4 | The Influence of Financial Management Practices on Financial Performance at UMaT | 0.907 | 10 | Reliable |

Source: conducted by authors



The results in Table 3 present the composite reliability for each construct in the questionnaire, all of which are well above the acceptable threshold, indicating strong internal consistency. The Demographics construct, with a composite reliability score of 0.886, is considered reliable. This score suggests that the 8 items designed to gather demographic information consistently measure the same concept, and thus the responses in this section are internally consistent. While demographic data might not directly influence the main study outcomes, ensuring reliability in these items is crucial to provide accurate contextual information about the participants. The construct measuring Budgeting and Budgetary Control Practices at UMaT has a composite reliability of 0.982, indicating high reliability. With 10 items, this exceptionally high CR score suggests that the questions within this section are highly consistent in measuring respondents' views on budgeting practices at UMaT. Such a high level of internal consistency implies that the instrument effectively captures the nuances of budgeting and budgetary control processes, making it a highly reliable measure for analysis. The Internal Controls and Audit Practices construct achieved a composite reliability of 0.987, which is also exceptionally reliable. The 10 items measuring this construct are highly consistent in capturing respondents' perceptions of the internal control and audit mechanisms at UMaT. The strong internal consistency suggests that the responses within this section will be dependable for drawing conclusions about the effectiveness of these practices. The construct related to the Influence of Financial Management Practices on Financial Performance scored a composite reliability of 0.907, also deemed reliable. This score, while slightly lower than the other constructs, is still well above the accepted threshold, indicating that the 10 items consistently measure the impact of financial management practices on financial performance. This reliability ensures that the items are coherent and contribute validly to understanding the financial management dynamics at UMaT.

Overall, the composite reliability analysis for each construct reveals that all sections of the questionnaire demonstrate strong internal consistency, with CR values ranging from 0.886 to 0.987. These results confirm that the instrument is reliable, meaning that the items within each construct consistently measure the intended concepts.

4.2 Demographic Characteristics

This section presents and discusses the demographic features of the respondents who participated in the survey. The gender of the respondents, their age, their highest qualification, experience etc. are all included in this list of the respondent's characteristics. Table 4 presents the demographic characteristics of respondents. In terms of gender, the respondents are fairly balanced, with a slight male dominance. Out of the total 55 participants, 30 respondents are male, representing 54.5% of the sample, while 25 respondents are female, accounting for 45.5%. This balanced distribution indicates a diverse representation of both genders, which enhances the inclusivity of the findings



Table 4. Demographic Characteristics of Respondents

| Variables | Category | Frequency | Percent |
|-----------------------|--------------------|-----------|------------|
| Gender | Male | 30 | 54.5 |
| | Female | 25 | 45.5 |
| Age | 21 – 30 | 10 | 18.2 |
| | 31 – 40 | 15 | 27.3 |
| | 41 – 50 | 20 | 36.4 |
| | Above 50 | 10 | 18.2 |
| Highest qualification | Masters | 20 | 36.4 |
| | Professional Cert. | 5 | 9.1 |
| | First Degree | 15 | 27.3 |
| | HND | 15 | 27.3 |
| Experience | Less than 2 years | 10 | 18.2 |
| | 2 – 3 years | 10 | 18.2 |
| | 4 – 5 years | 15 | 27.3 |
| | Above 5 years | 20 | 36.4 |
| Total | | 55 | 100 |

Source: authors own work.

The age distribution of the respondents reflects a concentration of participants in the middle-age categories. The largest age group is those between 41 and 50 years, comprising 20 respondents or 36.4% of the total sample. This is followed by the 31 to 40 years age group, which accounts for 27.3% of the respondents, with 15 individuals. The 21 to 30 years and Above 50 years categories each represent 18.2% of the sample, with 10 respondents in each group. This distribution suggests that the majority of respondents are between 31 and 50 years, indicating a workforce that is likely to have significant professional and life experience, which could influence their perspectives on financial management practices. Regarding educational qualifications, the majority of the respondents are highly educated, with a large portion holding advanced degrees. Twenty respondents, or 36.4%, possess a Master's degree, making this the most common qualification among the sample. A significant proportion of respondents also hold First Degrees and Higher National Diplomas (HND), with 15 respondents each, representing 27.3% of the sample for both



categories. Additionally, 5 respondents, or 9.1%, hold a Professional Certificate. This high level of education among the respondents suggests that they are well-qualified to provide informed insights into the study, particularly concerning complex financial management practices.

In terms of work experience, the majority of respondents have extensive professional backgrounds. 20 respondents, or 36.4%, have more than 5 years of experience, which is the largest group in this category. Additionally, 27.3% of respondents, or 15 individuals, have 4 to 5 years of experience. Both the Less than 2 years and 2 to 3 years' experience categories account for 18.2% of the sample, with 10 respondents each. This indicates that most of the respondents have considerable professional experience, with over half having more than 4 years of experience. Such experience is likely to contribute to the depth and reliability of the data collected, as these respondents have had significant exposure to financial management practices in their respective fields. Overall, Table 4 reflect a diverse and experienced group. The sample includes a balanced gender representation, a concentration of middle-aged individuals, and a highly educated workforce with significant professional experience. These characteristics are important as they suggest that the participants are likely to provide informed and reliable insights into the financial management practices being studied.

4.3 The Current Budgeting and Budgetary Control Practices

The open-ended qualitative data on budgeting and budgetary control practices at the University of Mines and Technology (UMaT) was analyzed using thematic analysis. The analysis, aligned with Resource-Based View (RBV) Theory and Contingency Theory, identified key themes and specific suggestions proposed by stakeholders for improving UMaT's budgeting and budgetary control processes. Below are the three common themes that emerged, supported by direct quotes from respondents.

Theme 1: Resource Allocation and Efficiency

Many respondents emphasized the need for more efficient allocation of financial resources, a concept rooted in Resource-Based View (RBV) Theory, which highlights the strategic use of internal resources for competitive advantage. Respondents noted that budgeting at UMaT should prioritize areas critical to the university's long-term success, such as research and infrastructure development. One respondent stated,

“There is a need to seek for adequate funding to be able to focus and impact on high-impact projects, especially those related to research, innovation and infrastructural development. Allocating more resources here will help UMaT maintain its competitive edge.”

This suggestion aligns with the RBV theory, which asserts that strategic investment in key resources strengthens organizational capabilities (Nguyen & Lee, 2020).



Theme 2: Internal Control Mechanisms

Strengthening internal control mechanisms emerged as a key theme, with many respondents calling for better systems to prevent fraud and ensure proper financial oversight. One respondent emphasized,

“We need to regularly review controls and identify emerging risks for the establishment of adequate controls to prevent errors, irregularities and fraud. A more regular financial reviews and audits are necessary as this would minimize the risk of mismanagement and ensure every department is held accountable for their budget.”

The Resource-Based View (RBV) Theory supports the idea that effective internal controls are a valuable resource that helps safeguard financial assets, thereby contributing to long-term sustainability (Simons, 2019).

Theme 3: Training and Capacity Building

The need for training and capacity building in financial management was also frequently mentioned. Respondents felt that some of those involved in the budgeting process lacked some expertise. One respondent commented,

“The staff involved in financial planning at the departmental level require some training. Investing in financial literacy and budget management skills will make the process more efficient.”

According to RBV Theory, human capital is a crucial internal resource. By improving the skills and capacity of its staff, UMaT can optimize its financial management processes, turning these capabilities into a competitive advantage (Nguyen & Lee, 2020). Another respondent echoed this sentiment:

“Staff need more workshops and training in modern budgeting techniques. This will ensure better financial planning and execution.”

Providing training in financial management would help build a stronger, more capable team, further supporting the university's strategic objectives.

Based on the thematic analysis, respondents provided several key suggestions for improving budgeting and budgetary control practices at UMaT:

- Implement real-time financial monitoring tools to enhance transparency and prevent budget overruns.
- Strengthen internal audit systems to prevent mismanagement of funds and improve financial accountability.
- Provide financial management training for staff involved in budgeting to improve the efficiency and effectiveness of budget planning.



Overall, the thematic analysis of the qualitative data revealed several key areas for improvement in UMaT's current budgeting and budgetary control practices. Themes such as resource allocation, internal control mechanisms, and staff training emerged as crucial elements. Aligning with both the Resource-Based View Theory and Contingency Theory, the respondents emphasized the need for strategic use of internal resources and the adaptability of financial controls to changing circumstances. These insights suggest that by adopting the proposed strategies, UMaT could enhance its budgeting practices, ensuring better financial performance and sustainability.

4.4 Effectiveness of Internal Controls and Audit Practices at UMaT

The qualitative data on the effectiveness of internal controls and audit practices at the University of Mines and Technology (UMaT) was analyzed using thematic analysis. The findings are aligned with Resource-Based View (RBV) Theory and Contingency Theory, both of which provide a lens through which the proposed strategies can be better understood. Below, the analysis identifies four common themes and specific suggestions proposed by stakeholders to enhance internal controls and audit practices at UMaT.

Theme 1: Strengthening Financial Oversight

A dominant theme that emerged from the analysis was the need to strengthen financial oversight at UMaT. Many respondents emphasized that UMaT should implement stronger financial monitoring mechanisms to enhance the existing level of good ensure governance of financial resources. As one respondent noted,

“Enhanced resource support for the Budget Committee, and the Finance and Standing Committee to ensure a more regular meetings would enhance financial oversight. The internal audit function needs to be adequately resourced to enhance early detection of financial discrepancies and prevent mismanagement.”

This aligns with Resource-Based View Theory, which stresses the importance of internal resources—such as effective internal controls—for maintaining competitive advantage (Barney, 2021). By improving financial oversight, UMaT can safeguard its resources and ensure that its financial systems are aligned with its strategic goals (Ryu, 2019). From a Contingency Theory perspective, strengthening oversight is critical because internal controls should adapt to the unique challenges and external pressures facing UMaT, such as fluctuating government funding and changing enrollment patterns (Donaldson, 2021). Tailoring financial oversight mechanisms to meet these conditions would enable UMaT to be more proactive in managing risks.

Theme 2: Implementing Real-Time Audit Systems

Another prominent theme was the need for real-time audit systems to improve the timeliness and accuracy of financial reporting. Respondents pointed out that existing audit practices are often delayed, leaving the institution vulnerable to financial risks. One participant stated,



“We need to shift towards real-time audits. Delays in financial reporting mean that by the time issues are discovered, it's often too late to address them effectively.”

The Resource-Based View (RBV) Theory supports this approach by emphasizing the need to leverage technological resources to maintain a competitive edge. By adopting real-time auditing tools, UMaT could improve its financial transparency and accountability, which in turn would foster stakeholder trust (Simons, 2019). Furthermore, Contingency Theory suggests that dynamic auditing processes should be designed to meet the specific operational needs and environmental factors that UMaT faces, such as financial uncertainty and institutional growth (Lone & Bhat, 2022).

Theme 3: Enhancing Internal Control Systems to Prevent Fraud

Many respondents raised concerns about the risk of fraud and financial mismanagement, suggesting that UMaT's internal control mechanisms require a more timely and regular reviews for improvement and ensure they are more robust. A common recommendation was to implement preventive controls that can identify and mitigate financial risks before they escalate. As one respondent commented,

“There's a need for tighter control systems that can enhance detection and prevention of fraud, especially at the departmental level. Adequate fraud-risk controls are crucial for fraud prevention and our internal audit practices should make fraud prevention a key focus”

This directly relates to RBV Theory, which positions internal control systems as a valuable resource that helps protect the organization's financial stability (Bošnjak et al., 2020). By investing in fraud prevention systems and establishing strong internal controls, UMaT can minimize financial losses and better allocate its resources toward achieving its strategic objectives (Nguyen & Lee, 2020). According to Contingency Theory, internal controls must be tailored to the university's operational environment. Given UMaT's reliance on government funding and other fluctuating revenue streams, flexible and adaptable control systems are necessary to ensure that financial risks are managed in real-time (Donaldson, 2021).

Theme 4: Training and Capacity Building for Internal Auditors and Accountants

Another theme that emerged from the qualitative responses was the need for training and capacity building for internal Auditors and accountants. Respondents expressed concerns that many of the staff involved in internal control and audit processes require some expertise to enhance their effectiveness in handling the university's complex financial systems. One participant mentioned,

*“The Internal audit and finance staff have some training needs to enhance their competence. We need to invest in training programs to ensure that our auditors and accountants are equipped with the required knowledge, **Technics** and skills to handle modern auditing and accounting systems.”*



This aligns with the RBV Theory, which highlights human capital as a critical internal resource (Barney, 2021). By providing training and capacity-building programs, UMaT can strengthen capabilities of its audit and accounting or financial staff, ensuring that staff are well-prepared to respectively advise and manage financial controls effectively (Simons, 2019). A better-trained workforce would also improve the accuracy and efficiency of audits, leading to more timely and reliable financial data.

Moreover, Contingency Theory supports this approach by suggesting that internal controls and audit processes should be adaptable to the specific skills and capabilities of the staff involved (Hayes, 2021). Enhancing staff capacity through training would allow UMaT to better align its financial management practices with its institutional needs and challenges.

Based on the thematic analysis, respondents proposed several key strategies for improving internal controls and audit practices at UMaT:

- Strengthen financial oversight by enhancing resource supports for oversight committees and the internal audit function as well as implementing a more rigorous audit processes and regular financial reviews to detect discrepancies early.
- Adopt real-time auditing systems to enhance the timeliness and accuracy of financial reporting.
- Review and implement enhanced preventive controls that focus on fraud detection and prevention at both the departmental and university-wide levels.
- Provide training and capacity-building programs for finance and audit staff to improve their technical skills and knowledge in modern accounting and auditing techniques.

Overall, the thematic analysis of the qualitative data on internal controls and audit practices at UMaT revealed several key themes, including the need to maintain stronger financial oversight, real-time auditing, fraud prevention and training and capacity-building. Aligning with both Resource-Based View Theory and Contingency Theory, these themes suggest that UMaT's internal controls must be strengthened and tailored to the specific operational and financial challenges it faces. By adopting the proposed strategies, UMaT can enhance its internal control systems, improve financial transparency, and ensure long-term sustainability.

4.5 The Level of Financial Reporting, Analysis and Transparency at UMaT

Table 5 presents the descriptive statistics on the level of financial reporting, analysis and transparency at UMaT. Descriptive statistics provide a summary of the central tendency (mean) and variability (standard deviation) of the data collected.



Table 5. Descriptive Statistics on the Level of Financial Reporting, Analysis and Transparency

| Statistic | Total Revenue (GHS) | Total Expenses (GHS) | Net Income (GHS) | Capital Expenditure (GHS) | Operational Costs (GHS) | Research Grants (GHS) |
|---------------------------|---------------------|----------------------|------------------|---------------------------|-------------------------|-----------------------|
| Mean | 14,900,000 | 10,400,000 | 4,300,000 | 2,640,000 | 7,860,000 | 1,360,000 |
| Standard Deviation | 2,153,984 | 1,371,131 | 836,660 | 616,441 | 596,480 | 332,913 |
| Minimum | 12,000,000 | 9,000,000 | 3,000,000 | 2,000,000 | 7,000,000 | 1,000,000 |
| Maximum | 17,500,000 | 12,500,000 | 5,000,000 | 3,500,000 | 8,500,000 | 1,800,000 |

Source: authors' own work

Table 5 present key financial metrics, such as total revenue, total expenses, net income, capital expenditure, operational costs, and research grants. UMaT's mean total revenue over the five years was GH₵ 14.9 million, with a mean total expense of GH₵ 10.4 million, resulting in a mean net income of GHS 4.3 million. Variability in the data, shown by the standard deviation, indicates some fluctuation across the years, particularly in revenue and expenses. The institution's commitment to capital investments is reflected in an average capital expenditure of GH₵ 2.64 million annually, while research funding averaged GH₵ 1.36 million, showcasing UMaT's emphasis on academic growth and development. According to Resource-Based View (RBV) Theory, institutions that effectively manage and utilize their internal resources gain a competitive advantage (Johnstone, 2016). In the case of UMaT, its capital expenditures and research grants indicate investments in internal resources, such as infrastructure and academic development, which are vital for long-term sustainability and competitiveness. Johnstone (2016) emphasizes that leveraging internal resources like financial transparency and capital investments strengthens an institution's market position. UMaT's consistent investments in research and capital projects support this view, as these expenditures are likely designed to enhance academic performance and the university's reputation in the field of technology and mining. Furthermore, the allocation of research grants reflects UMaT's strategic effort to enhance its research output, which is critical in a competitive academic landscape. The variance in research grants (standard deviation of 332,913) suggests some fluctuation in funding but a consistent overall commitment.

The RBV Theory also underscores that internal resources, such as transparent financial reporting and the efficient use of funds, contribute significantly to organizational performance. Bray (2018) argues that transparency in financial management boosts stakeholder confidence and ensures better



financial governance. The relatively low variability in operational costs (standard deviation of 596,480) suggests a stable and transparent operational budget at UMaT, aligning with RBV's focus on the efficient allocation of resources. By maintaining steady operational costs and ensuring that research and capital expenditure remain stable, UMaT can preserve and enhance its competitive advantage. Contingency Theory posits that there is no single best way to manage an organization, and institutions must align their financial management practices with internal and external contingencies (Ciaran, 2017). UMaT's financial reporting reflects a dynamic adaptation to changing financial landscapes, supported by the data showing steady growth in revenue and manageable increases in expenses. Ciaran (2017) argues that organizations must adapt their financial management strategies to external pressures, such as fluctuating funding sources and changes in government policies. The steady increase in UMaT's total revenue from GH₵ 12 million in 2019 to GH₵ 17.5 million in 2023 shows the institution's capacity to adapt to financial uncertainties and external contingencies, a key tenet of Contingency Theory. Additionally, UMaT's ability to maintain a healthy net income across the five years, despite increases in operational costs and capital expenditures, illustrates the effectiveness of its financial strategies in response to changing financial conditions.

Furthermore, the application of Contingency Theory can be observed in UMaT's ability to manage research funding. Pradhan and Ranjan (2018) highlight the importance of flexible financial systems that can accommodate varying levels of research funding. The fluctuation in research grants over the years, with a minimum of GH₵ 1 million in 2019 and a maximum of GH₵ 1.8 million in 2023, suggests that UMaT has effectively adapted its research investments to available resources, aligning with Contingency Theory. By aligning research expenditures with available funds, UMaT ensures that research activities remain sustainable even in the face of financial variability. Overall, the financial reporting, analysis, and transparency at UMaT over the 2019-2023 period align well with both Resource-Based View Theory and Contingency Theory. By maintaining stable operational costs, investing in research and capital expenditures, and adapting to external financial contingencies, UMaT has demonstrated an effective and transparent financial management system that positions it for continued growth and competitiveness in the higher education sector.

4.6 The Current Cash Flow Management Practices at UMaT

Table 6 assesses the current cash flow management practices at the University of Mines and Technology (UMaT). Table 6 shows that, the mean cash flow from operating activities is GH₵ 4.34 million, with a standard deviation of GH₵ 559,016, reflecting a relatively consistent inflow from the university's operational activities. The mean cash flow from investing activities is negative at GH₵ -2.48 million, indicating a sustained investment in capital expenditures, such as infrastructure and equipment, necessary for long-term growth.



Table 6. Descriptive statistics for current cash flow management practices

| Statistic | Cash Flow from Operating Activities (GH₵) | Cash Flow from Investing Activities (GH₵) | Cash Flow from Financing Activities (GH₵) | Net Increase in Cash (GH₵) | Cash at Beginning of Year (GH₵) | Cash at End of Year (GH₵) |
|--------------------|---|---|---|----------------------------|---------------------------------|---------------------------|
| Mean | 4,340,000 | -2,480,000 | 1,280,000 | 3,200,000 | 6,700,000 | 9,840,000 |
| Standard Deviation | 559,016 | 388,908 | 204,939 | 418,330 | 4,680,158 | 5,308,131 |
| Minimum | 3,500,000 | -3,000,000 | 1,000,000 | 2,500,000 | 500,000 | 3,000,000 |
| Maximum | 5,000,000 | -2,000,000 | 1,500,000 | 3,500,000 | 12,700,000 | 16,200,000 |

Source: authors' own work

Cash flow from financing activities averages GH₵ 1.28 million, which includes inflows from external funding or loans to support operations and investments. According to Table 6, UMaT has demonstrated a positive net increase in cash each year, with a mean of GH₵ 3.2 million, and the cash at the end of the year increased steadily, reaching GH₵ 16.2 million by 2023. RBV Theory emphasizes the importance of internal resources and capabilities for sustained competitive advantage (Johnstone, 2016). UMaT's cash flow management practices reflect a strong alignment with the RBV theory, as the university consistently invests in its internal capabilities, particularly through its investing activities. A negative cash flow from investing activities (mean GH₵ -2.48 million) signifies that UMaT is allocating resources towards capital expenditures such as infrastructure, equipment, and technological upgrades, essential for maintaining a competitive edge in higher education.

According to Johnstone (2016), institutions that consistently invest in resources, such as capital assets, can enhance their capabilities, enabling long-term success. UMaT's strategy of using financing activities to support capital expenditures aligns with this view. The relatively consistent cash flow from financing activities (mean GH₵ 1.28 million) reflects UMaT's ability to secure external funding to support its investments, further enhancing its competitive position. UMaT's cash flow management also shows alignment with RBV Theory in how it uses operating activities to generate positive cash flow, which in turn supports capital investments and other operational needs. The university's mean cash flow from operating activities of GH₵ 4.34 million reflects strong operational performance, which is crucial for long-term sustainability (Bray, 2018). The



relatively low standard deviation of GH₵ 559,016 indicates that UMaT's operational cash inflows are stable, ensuring it has the necessary resources to meet both short-term obligations and long-term investments.

Contingency Theory argues that there is no one-size-fits-all approach to financial management; instead, organizations must adapt their financial strategies to fit internal and external contingencies (Ciaran, 2017). UMaT's cash flow management practices reveal adaptability in both its operational and investment strategies. The university's ability to maintain a positive net increase in cash despite fluctuations in both operating and investing activities reflects its flexibility in navigating financial challenges. Ciaran (2017) suggests that institutions must adapt their cash flow strategies based on external factors, such as changes in government funding, student enrollment, or economic conditions. UMaT's ability to consistently generate cash inflows from operating activities, while simultaneously investing in capital projects, shows its capacity to respond to these external contingencies effectively. The mean net increase in cash of GH₵ 3.2 million, coupled with a steady increase in cash at the end of each year, demonstrates that UMaT has adapted its financial practices to manage both operational and capital needs effectively.

Additionally, Pradhan and Ranjan (2018) highlight the importance of balancing operating and investing activities to ensure long-term financial health. UMaT's negative cash flow from investing activities is an indication that the university is actively investing in future growth, which is necessary for improving its educational infrastructure and maintaining competitiveness. However, the ability to balance these investments with strong operational cash inflows reflects a well-adapted financial management strategy aligned with Contingency Theory. Overall, UMaT's cash flow management practices from 2019 to 2023 align well with both Resource-Based View Theory and Contingency Theory. The university's consistent investment in capital projects and its ability to generate positive operational cash flow reflect a strategic approach to leveraging internal resources for long-term success. At the same time, UMaT's adaptability in managing both operational and investment activities demonstrates its capacity to respond effectively to financial contingencies, ensuring continued financial stability and growth.

4.7 The Influence of Financial Management Practices on Financial Performance

4.7.1 Correlation Factors That Affect Financial Performance

This section introduced correlation factors that impact financial performance. The study aimed to investigate the relationship between these factors and their impact on financial performance, as illustrated in Table 7. To assess the strength of the linear relationship between variables, Pearson Correlation was employed. Pearson Correlation measures the degree of linear association between quantitative variables and produces a coefficient ranging from -1 to 1. This coefficient reflects the extent of linear dependence between two quantitative variables (Anon., 2020d). A negative value suggests that one variable decreases as the other increases, while a positive value indicates that



both variables increase together (Härdle and Simar, 2007; Johnson and Wichern, 2007). Munro (2005) categorizes correlations as follows: very low if the value falls between 0 and 0.25, low if between 0.26 and 0.49, moderate if between 0.5 and 0.69, high if between 0.7 and 0.89, and very high or strong if between 0.9 and 1.0.

Table 7. Pearson Correlation Analysis of Variables That Affect Financial Performance

| | FP | BBC | FRT | ICA | CFM | G | Ag | Q |
|-----|-------|------|-------|------|-------|------|------|---|
| FP | 1 | | | | | | | |
| BBC | 0.34 | 1 | | | | | | |
| FRT | 0.67 | 0.28 | 1 | | | | | |
| ICA | 0.12 | 0.46 | 0.58 | 1 | | | | |
| CFM | 0.45 | 0.38 | 0.36 | 0.64 | 1 | | | |
| G | -0.23 | 0.15 | -0.14 | 0.27 | -0.05 | 1 | | |
| Ag | 0.56 | 0.52 | 0.22 | 0.15 | 0.61 | 0.09 | 1 | |
| Q | 0.31 | 0.24 | 0.49 | 0.32 | 0.21 | 0.18 | 0.44 | 1 |

Source: Conducted by authors based on survey. Significance = 5% level. Variables: Budgeting and Budgetary Control = BBC, Financial Reporting and Transparency = FRT, Internal Controls and Audit Practices= ICA, Cash Flow Management= CFM, Financial Performance = FP, G = Gender, Ag = Age, Q = Qualification.

According to Table 7, the correlation between financial performance and budgeting and budgetary control is positive ($r = 0.34$), indicating a moderate direct relationship. This suggests that improvements in budgeting and budgetary control are associated with better financial performance. However, the relationship is not strong, indicating that other factors may also play a significant role. The strong positive correlation ($r = 0.67$) between financial performance and financial reporting and transparency indicates that higher transparency in financial reporting is strongly associated with better financial performance. This aligns with the views of Ryu (2019), who argues that transparency fosters accountability, improving financial outcomes. The weak positive correlation ($r = 0.12$) between financial performance and internal controls and audit practices suggests that while internal controls are important, they do not have a strong direct effect on financial performance at UMaT. This could mean that internal controls need to be complemented by other factors, such as better cash flow management. The moderate positive correlation ($r = 0.45$) between financial performance and cash flow management implies that effective cash flow management is associated with improved financial outcomes. This aligns with the Resource-Based View (RBV) Theory, which emphasizes the importance of managing internal



resources like cash flow to gain a competitive advantage (Johnstone, 2016). There is a weak negative correlation ($r = -0.23$) between financial performance and gender, suggesting that gender has a negligible or slightly inverse relationship with financial performance. This indicates that gender differences do not significantly affect financial outcomes at UMaT. The correlation between financial performance and age is moderately strong ($r = 0.56$), indicating that older employees or more experienced individuals are associated with better financial performance. This may reflect that experience and age contribute to better financial decision-making and management.

The positive correlation ($r = 0.31$) between financial performance and qualification implies that higher qualifications are associated with improved financial outcomes, but the relationship is not particularly strong. This suggests that while qualifications are important, other factors like experience and financial practices are also critical. The moderate positive correlation ($r = 0.28$) between budgeting and financial reporting suggests that better budgeting practices are associated with improved financial transparency. This is aligned with Bray (2018), who argues that transparent budgeting leads to better financial management. There is a moderate positive correlation ($r = 0.46$) between budgeting and internal controls, indicating that effective budgeting is often associated with strong internal controls. This suggests that budgeting and internal control systems work together to ensure financial discipline at UMaT. The moderate positive correlation ($r = 0.38$) between budgeting and cash flow management reflects the importance of aligning budgetary practices with cash flow management. This aligns with the Contingency Theory, which argues that financial management strategies should adapt to the institution's unique needs (Ciaran, 2017).

The relatively strong positive correlation ($r = 0.58$) between financial reporting and internal controls reflects that better transparency in financial reporting is often associated with more robust internal controls. This suggests that institutions with stronger internal audit practices are likely to have more transparent financial reporting. The moderate positive correlation ($r = 0.36$) between financial reporting and cash flow management indicates that improved transparency also enhances the management of cash flow. This finding aligns with Johnstone (2016), who emphasizes the role of transparent reporting in effective financial management. The strong positive correlation ($r = 0.64$) between internal controls and cash flow management suggests that effective internal controls contribute significantly to better cash flow management. This supports Pradhan and Ranjan's (2018) argument that robust internal controls help organizations optimize their cash flow and minimize financial risks. The weak positive correlation between internal controls and gender ($r = 0.27$) indicates a slight relationship, but it is not particularly strong or significant. This suggests that gender does not substantially influence internal controls.

The moderately strong positive correlation ($r = 0.61$) between cash flow management and age suggests that more experienced individuals (who are likely older) tend to manage cash flow better.



This reflects the importance of experience in financial decision-making, as proposed by Ryu (2019). The weak positive correlation ($r = 0.21$) between cash flow management and qualification indicates that while higher qualifications are associated with slightly better cash flow management, other factors such as experience may play a more critical role. The moderate positive correlation ($r = 0.44$) between age and qualification suggests that older individuals tend to have higher qualifications. This is expected, as experience and further education often go hand-in-hand, especially in an academic environment like UMaT.

The strongest correlations observed are between FRT and FP (0.67), ICA and CFM (0.64), and CFM and Ag (0.61). These suggest that transparency in financial reporting, effective internal controls, and the experience of individuals play significant roles in improving financial performance and cash flow management. There are several moderate correlations, including BBC and FP (0.34), FRT and ICA (0.58), and FP and Ag (0.56). These relationships highlight that while budgeting and internal controls contribute to financial performance, other factors, such as transparency and experience, are equally critical. Gender (G) generally shows weak correlations with financial performance and other financial practices, suggesting it has a limited role in influencing financial outcomes.

Overall, The Pearson correlation analysis provides valuable insights into how various financial practices and demographic variables influence financial performance at UMaT. The results align with both Resource-Based View (RBV) Theory and Contingency Theory, particularly in highlighting the importance of transparency, experience, and internal controls in driving financial success. Improved financial reporting and transparency (FRT) have the strongest positive relationship with financial performance, underscoring the need for UMaT to maintain the prioritization of transparency in its financial management practices. Similarly, cash flow management (CFM) and internal controls (ICA) play vital roles in ensuring financial stability, aligning with Johnstone's (2016) and Pradhan and Ranjan's (2018) views on the importance of managing internal resources efficiently.

4.8 Regression Results on the Impact of Financial Management Practices on Financial Performance

A regression analysis was run to establish the relationship and magnitude of the relationship that exists between the various factors that affects financial performance at UMaT. Results from the regression are shown in Table 8. The general regression model arrived at was Equation 8:

$$Y = 0.85 + 0.8BBC + 1.23FRT + 0.62ICA + 1.05CFM + \varepsilon_i \quad (9)$$

The coefficients in the regression model above shows that all the tested variables had negative relationship with financial performance, with all the variables tested being statistically significant with p-values less than 0.05.



Dependent Variable: Financial Performance.

Table 7. Results of Tobit Regression Analysis

| Predictor Variable | Coef. | Std. Err. | t | P>t | [95% Conf. Interval Lower] | [95% Conf. Interval Upper] |
|---------------------------------------|-------|-----------|-------|-------|----------------------------|----------------------------|
| Budgeting and Budgetary Control | 0.8 | 0.17 | 4.71 | 0.05 | 0.47 | 1.13 |
| Financial Reporting and Transparency | 1.23 | 0.12 | 10.25 | 0.001 | 0.99 | 1.47 |
| Internal Controls and Audit Practices | 0.62 | 0.2 | 3.1 | 0.1 | 0.23 | 1.01 |
| Cash Flow Management | 1.05 | 0.09 | 11.67 | 0.002 | 0.88 | 1.22 |
| Age (Control) | 0.5 | 0.25 | 2 | 0.15 | 0.01 | 0.99 |
| Gender (Control) | 0.1 | 0.29 | 0.34 | 0.2 | -0.47 | 0.67 |
| Qualification (Control) | 0.75 | 0.18 | 4.17 | 0.03 | 0.4 | 1.1 |
| Cons (Constant) | 0.85 | 0.14 | 6.07 | 0.001 | 0.58 | 1.12 |

Source: authors' own work

Among the variables, FRT (coefficient = 1.23, p = 0.001) and CFM (coefficient = 1.05, p = 0.002) have the strongest and most statistically significant positive relationships with financial performance. This suggests that enhanced transparency in financial reporting and effective cash flow management are crucial for financial success at UMaT, consistent with the views of Ryu (2019) and Pradhan and Ranjan (2018), who emphasize the importance of transparency and liquidity in financial health. Budgeting and budgetary control (coefficient = 0.8, p = 0.05) also positively impacts financial performance but with borderline significance, highlighting the importance of disciplined budgeting. Meanwhile, qualification (coefficient = 0.75, p = 0.03) is a



significant predictor, indicating that highly qualified individuals contribute positively to financial performance, supporting Ciaran (2017)'s emphasis on qualifications in decision-making.

Weaker predictors, such as internal controls (coefficient = 0.62, $p = 0.1$), age, and gender, do not show statistically significant effects. This implies that internal controls alone may not have a direct impact on financial performance unless complemented by other factors, such as budgeting and cash flow management. Overall, the results underscore the importance of transparency, effective resource management, and well-qualified personnel in driving financial success at UMaT.

5. Conclusion

This study aimed to explore the impact of financial management practices on financial performance at the University of Mines and Technology (UMaT). The study employed a mixed-methods approach, using both qualitative and quantitative data from a sample of respondents with varying demographic backgrounds, professional experience, and educational qualifications. The findings revealed a strong positive correlation between financial performance and factors such as financial reporting and transparency, cash flow management, and qualification levels. Budgeting and internal controls were also found to contribute positively to financial outcomes, although their effects were less pronounced. The results aligned with both the Resource-Based View (RBV) and Contingency Theories, highlighting the importance of internal resources and adaptability in financial management. This study achieved its objectives by comprehensively examining the financial management practices at UMaT. First, the research assessed the current budgeting and budgetary control practices, finding that while these practices are moderately effective, improvements in stakeholder involvement and transparency could enhance their impact on financial performance. Secondly, the study evaluated the level of financial reporting, analysis, and transparency through secondary data, revealing that transparency in financial reporting significantly contributes to better financial outcomes. Third, the research assessed the effectiveness of internal controls and audit practices, showing a positive but moderate impact, suggesting the need for stronger integration with other financial practices. The investigation into cash flow management highlighted its crucial role in maintaining liquidity and supporting long-term financial stability, with effective cash flow management positively influencing financial performance. Finally, the study analyzed the overall influence of financial management practices on financial performance, confirming that transparent financial reporting, efficient cash flow management, and well-executed budgeting are critical drivers of financial success.



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