Cash Budgeting and Profitability of Quoted Small and Medium Scale Enterprises: A Panel Data Study from Nigeria

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Article History	Abstract
  	Using cross-sectional data from 2015–2024 derived from the financial statements of the cited SMEs, this study examined the impact of cash budgeting on the profitability of these businesses. We modelled operating cash flow, estimated cash inflow and outflow, calculated cash balance and net cash flow to determine earnings per share. Collective statistics The methods of ordinary least squares were employed. Cash budgeting accounted for 54.3% of the variance in EPS for the listed companies, according to the study's fixed effect model. With a probability level well below the 5% significance level, the coefficients demonstrated that all cash budgeting variables used by enterprises have a strong tendency to increase earnings per share of employed firms. A negative coefficient is shown by expected cash inflow and estimated cash balance on earnings per share, whereas a positive coefficient is shown by operating cash flow, anticipated cash outflow, and net cash flow. The research shows that cash budgeting factors impact diluted earnings for publicly traded companies in different ways. According to the research, in order for small and medium-sized businesses to achieve long-term financial success, stability, and profitability, they should adopt and strictly adhere to solid cash budgeting methods. ***Keywords:*** *Cash Budgeting, Profitability, Small and Medium Scale Enterprises, Panel Data Study, Nigeria.*

INTRODUCTION

The majority of the world's businesses are small and medium-sized enterprises (SMEs), which are widely acknowledged as driving social and economic development (Kpa, et al., 2024, Montanari & Kocollari, 2020). Many governments throughout the world are placing a high focus on the development of SMEs due to the fact that, according to the World Bank (2020), there will be a demand for more than 600 million jobs by 2030 to accommodate the expanding global workforce. New data shows that small and medium-sized enterprises (SMEs) employ between 60 and 70% of the world's workers and make up 90% of all businesses (Mabenge et al., 2020; World Bank 2020). According to many sources (Gamage et al., 2020; OECD, 2018; Wellalage & Locke, 2020), small and medium-sized firms (SMEs) are the most active players in globalised trade. They have a major impact on economic growth, both in developed and developing nations. The performance

potential of small and medium-sized enterprises (SMEs) in Nigeria is hindered by a multitude of difficulties, as pointed out by Oladele et al. (2019). Small and medium-sized enterprises (SMEs) in Nigeria face a highly competitive market, so they must come up with creative solutions to stay afloat. The owners and managers of SMEs aren't very knowledgeable, they don't want to deal with cash flow management, and they aren't very competitive, all of which lead to poor performance. Anoke et al. (2022) and Ojide et al. (2022) found that this led to lower-than-expected profitability, decreased productivity, smaller market share, and difficulty in cost control. According to research by Babandi and Barjoyal (2021) and Franco et al. (2020), a large majority of small and medium-sized enterprises (SMEs) in Nigeria fail within the first five years due to a lack of experience and other poor business practices. These mistakes lead to higher operational costs, lower

profitability and productivity, and overall poor performance.

When it comes to managing cash resources effectively, a cash budget is a financial plan that lays out all the expected cash inflows and expenditures over a certain period of time, usually monthly or quarterly. Using it, companies can better plan and manage their cash flows, which in turn helps them assess their liquidity, make educated decisions about investments, expenses, and financing, and more. Implementing a cash budget allows firms to take charge of their working capital by forecasting future cash flows and analysing expected cash needs. This proactive approach guarantees that there will be sufficient funds to meet financial responsibilities and pursue development opportunities. The purpose of a cash budget is to provide a thorough plan outlining the coming in and going out of cash resources over a specific time period, with an emphasis on expected cash inflows and outflows. It is a brief financial plan that shows the expected cash flows for a certain time frame (Mishra, 2018). A cash budget's primary goal is to plan and control cash inflows and outflows so that there are enough funds available when needed. A cash budget is defined as "a forecast of the company's expected cash inflows and outflows over a given period, such as a month or quarter, aiding in the management and control of the company's cash flows." Management is guided to make prudent decisions on investment, financing, and dividend plans by the cash budget, which ensures that cash is available when needed. A cash budget is a plan that helps managers make informed decisions about how to spend money by predicting how much money will come in and how much will go out over a certain time period, usually monthly or quarterly. It's crucial for managing a company's short-term liquidity. It is useful for determining the best financial position to meet operational and investment needs and for estimating the company's cash requirements.

In cash budgeting, a consistent performance strategy is developed and followed to increase the overall effectiveness of the firm. Therefore, in order to control and reduce unwanted expenses, cash budgeting is critical for a business. It also helps to increase demand in a highly competitive market. Pandy(2009) argues that a company's principal goals should be to increase shareholder wealth, increase profits, and restore consumer satisfaction. Most people are thinking about how to maximise revenues. Cash budgeting should be a company's top priority if they want to achieve their most critical objectives while keeping costs down. The relationship between cash budgeting and business success has been the subject of varying degrees of research. The impact of cost management on the profitability of a few Nigerian manufacturing enterprises was studied by Godwin et al. (2019). Warue and Wanjira (2013) investigated elements impacting budgeting procedures among SMEs in the hotel sector in Nairobi's central business district, and Muthama (2016) set out to determine the consequences of cash flow management strategies on the operational performance of chosen public hospitals in Kisii County, Kenya. Small and medium-sized enterprises (SMEs) in India were the focus of Hoque's (2017) research on the effects of mental budgeting on financial management. Given the paucity of domestic research on the topic, this study set out to fill that gap by analysing how cash budgeting affected the bottom lines of publicly traded Nigerian SMEs.

LITERATURE REVIEW
Cash Budgeting

Efficient working capital management includes proper cash management. It's all about keeping track of money coming into and going out of the company, as well as how it moves around within the company (Kaplan & Atkinson, 2015). Cash receivables, or the sum due by consumers from sales made on credit, inventory holding, or the expenses connected with retaining unsold items, and cash payments to suppliers are the three main components of cash management, as stated by Kroes and Manikas (2014). According to Afrifa (2016), a company's performance is impacted by its working capital investments, which are in turn influenced by cash flow management. To manage cash flow, one must strike a balance between the two extremes of holding too much and too little cash on hand (Kirkham, 2012). Budgeting for cash, collecting cash, controlling liquidity, and controlling disbursement are the basic activities of cash flow management. An itemised plan of anticipated cash inflows and outflows over a certain time frame is known as a cash budget. Budgeting for cash flow is critical because it helps businesses decide how much credit to extend to consumers without running into cash flow issues. A cash budget is necessary for a company to accurately predict its financial inflows and outflows, according to Brooks and Mukherjee (2013).

Cash Management

As financial managers strive to extract every last cent from their cash management techniques in this era of globalisation and electronic transactions, the level of sophistication in this area is steadily rising (Block & Hirt 1992). Cash is more than simply a component of working capital, claims Mclaney (2000). Cash connects all of a company's financial parts since it is both a means of trade and a store of value. Investment decisions regarding fixed assets and working capital are influenced by this relationship between short-term and long-term finance. No matter the size of the company, one of the most important

responsibilities is managing the cash flow. Among a company's assets, cash and marketable securities are considered the most liquid according to Meyer et al. (1992). All of a business's liquid assets, including currency and bank accounts, are collectively referred to as cash. Management is able to carry out their duties within company organisations because cash is the means of transaction.

According to Keynes's economic theory, which has been backed by other writers, the only valid reasons to store cash are for transactional, precautionary, or speculative purposes. Keynes (1973) argues that businesses keep cash on hand to cover the period it takes to go from when they incur company costs to when they receive selling earnings. So, in order to cover their normal operating costs, businesses keep a specific amount of cash on hand. Therefore, the "transactions-motive" for retaining cash will be less if the firm's ability to schedule its cash flows (based on their predictability) increases. Since it shows how much money companies have on hand, the transaction motivation is more relevant to them. The precautionary motive takes into consideration the fact that businesses must plan ahead for both expected and unexpected costs and chances for profitable acquisitions. That is why businesses in less risky industries tend to have lower levels of precautionary capital on hand compared to those in more unpredictable sectors.

Thirdly, storing funds for speculating purposes is a valid reason to do so. Assumption that security prices fall in response to increases in interest rates and vice versa is the foundation of the speculative drive. Firms will put their extra capital to work by purchasing securities when they anticipate a decline in interest rates. As a result of the expected decline in interest rates, the firm stands to gain from the increased value of the bought securities. It is reasonable to suppose that this estimate is particularly true for SMEs, who typically lack the means to make such intricate financial judgements, as Horne (2000) asserts that corporations do not retain capital for such speculative purposes. A company's cash management success or failure is heavily dependent on the approach it employs. According to Gitman et al. (1970), it is important to acknowledge that every company's methods of receiving and disbursing funds from operations are distinct.

Net Cash Flow

A company's net cash flow is the sum of its cash inflows less its cash outflows for a specific time period. Net cash flow, in its most literal definition, is the change in a business's cash balance as shown in its cash flow statement. Companies can use their net cash flow to fund expansion, product development, stock buybacks, dividends, and debt reduction. It is the backbone upon which firms' day-to-day operations rely. This is why, for some investors, net cash flow is more important than EPS or any other financial metric. Gyebi and Quain (2013) state that revenues and expenses play a significant role in determining net cash flow.

Keep in mind that negative net cash flow in the short term is not necessarily a negative thing. Investing in a second manufacturing plant may be costly, but it will be worthwhile in the long run if the cash flow from the factory exceeds the initial expenditure. Finding low-priced companies with high- or improving-net cash flow is a common goal for investors. When there is a gap, it usually indicates that the stock price will rise soon. Several factors, both good and negative, contribute to the total amount of cash flow that an investment generates. Capital expenditures and operational expenditures, for instance, should both be included when calculating profitability. Standard time intervals for calculating net cash flow are quarterly or semiannually. According to Gheshlaghi et al. (2014), the formula for profit or net cash flow is revenue minus costs. Due to its incorporation of the time value of money, the net cash flow model is the most popular model utilised by corporations to ascertain profit. Net cash flow is another name for profit in the cash flow model. Time zero is the one distinctive aspect of the net cash flow model that was already stated. On the day that contractors are paid, the clock starts ticking. The net cash flow model positions capital expenditure at time zero. Economic analysis relies heavily on the cash-flow model due to its incorporation of the time value of money.

Profitability

Profitability is defined as the capacity of an enterprise or investment to create earnings and achieve a favourable return on investment (Akpa, et al., 2024; Almashhadani & Almashhadani, 2022). The net profit margin, defined as net income divided by total income, shows what proportion of revenue is turned into profit (Almashhadani 2021). This is the standard accounting metric for profitability. According to Adeoye and Abu (2015), a company is considered profitable if it is able to turn a profit after deducting all of its operating expenses, meeting its investment goals, and maximising the use of its human resources. According to Harward (2016), a company's profitability can be defined as the rate of return on an investment. In a similar vein, Muya and Gathogo (2016) defined business profitability as the capacity to achieve long-term financial success by making good use of a company's resources through well-coordinated management and sound decision-making over a specific time frame. Both Haralayya and Aithal (2021) agreed that profitability is a measure of a company's capacity to make money from its investments and sales. Profitability is defined as an organization's capacity to generate a return on investment (ROI) (Nishanthini and

Nimalathasan, 2013). Reducing operational expenses, interest payments, depreciation, and taxes from total revenue is another possible calculation. Making a profit is, then, what we mean when we talk about profitability. Profitability is defined by Falope and Ajilore (2009) as the capacity of an organisation, firm, or enterprise to generate a profit from all of its business operations, or the ability to receive a return from an investment. In support of this idea, Ahmed et al. (2020) defined profitability as an industry's or company's capacity to generate long-term profits while taking into account elements like cost efficiency, market circumstances, and competition.

Risk Based Budgeting Theory

A method for risk-based budgeting was created in 2010 by Maillard, Roncalli, and Teiletche. The theory's main point was that budgets should take risk into account. Risk The term "budgeting" refers to the method of quantitatively breaking down the overall risk of an investment portfolio into its individual components. At its core, this risk-based investment approach prioritises risk diversification. Because it proposes include risk indecision of budgeting to maximise return produced by budgeting ways, this risk based budgeting theory is relevant to the study. Inadequate knowledge limits financial resources' application (Phenya, 2011). Budgets are more consistent when risks are properly and thoroughly considered throughout the planning phase. The aims and purposes of budgeting are impacted by the planning and forecasting carried out during budget processes.

Companies that employ a Chief Risk Officer are shown to have more thorough risk plans compared to those without one, according to Harvard Business Review (2011). In order to maximise profit, MSEs should spread risk in their budgeting processes while investing in a portfolio. Warue and Wanjira (2013) suggested that employees be involved in budgeting at all levels, that ownership and management concerns be kept separate, and that managers' abilities be continuously improved. When making business decisions, most MSEs do not break them down into investment risks including business, inflation, taxes, liquidity, market, reinvestments, and exchange rate.

The Risk –Return Trade-Off Theory

The focus of this theory is on the ways in which businesses will not take on more risk unless they are guaranteed higher profits. A prime illustration of the risk-reward aspect of financial decision-making is the working capital decision. A company's ability to pay its obligations on time is mitigated by increasing its net working capital, which is calculated as current assets minus current liabilities. Concurrently, this lowers the firm's total profitability. In managing working capital, one must weigh the potential benefits against the potential costs, or risk, and decide whether to take on more risk or not (Akinlo, 2011). If management can't keep the company's working capital under control, the business will fail (Barine, 2012). In addition, he added that the process of managing a company's working capital entails turning investments in inventory and accounts receivable into cash that the business can use to pay its 68 operational bills. He went on to say that effectively managing the company's working capital is crucial to the smooth running of the business and the enhancement of its bottom line.

One cannot overlook the utilisation of the trade-off model. It lays out how companies with a lot of debt have a harder time making a profit and finding other ways to finance their operations because of the high cost of debt servicing. Both bigger and smaller businesses have cash on hand at that point. For this reason, the ideal level of current assets should be determined by companies by striking a balance between company liquidity and profitability. Minimising the overall cost of investing in current assets—that is, the cost of illiquidity plus the cost of corporate liquidity—will accomplish this. Reaching the sweet spot of corporate liquidity allows a company to avoid the pitfalls of having too much or too little cash on hand and helps them make the most money possible.

Corporate Liquidity Preference Theory

For the purpose of explaining how the supply and demand for money determine the interest rate, Keynes (1936) was the first to formulate the idea of corporate liquidity in his book The General Theory of Employment, Interest and Money. "Liquidity preference" is the term used to describe the demand for money by corporations. Investors would rather keep their money in the bank, which is safer, thus the concept that they would demand a premium for assets with extended maturities is risky. It is easier to swiftly and easily sell an investment for its full value if it is more liquid. You should expect to pay a higher premium for short-term securities compared to medium-term ones, and a lower premium for long-term ones, due to the fact that short-term interest rates are more unpredictable. You may expect to earn 1% interest on a three-year Treasury note, 3% interest on a ten-year note, and 4% interest on a thirty-year bond, for instance. Modelling by Baumol In order to help businesses decide how much cash to keep on hand, Baumol (1952) created an inventory management model. He likened the holding and ordering expenses of cash to those of goods when describing them. The reasonable person, he reasoned, will seek cash at a rate proportional to the square root of the value of these transactions, given the current price level.

The money demand model was created by Miller and Orr in 1966. Based on the model, the company waits to buy or sell marketable securities until the cash balance reaches

either the upper or lower control limit, allowing it to vary between the two. The underlying premise is that the net cash flows follow a normal distribution with a mean of zero and a standard deviation. This model has a return point, two control limits (upper and lower) and a control point. When the firm's cash limit reaches its upper limit, which might fluctuate at random, the firm buys enough marketable securities to bring its cash balance back to its normal level, which is called the return point. Just like a student would sell enough marketable securities to bring the cash balance back to the usual level, the firm will do the same when its cash flows near the lower limit.

Empirical Review

Analysing non-financial companies listed on the Nairobi Security Exchange, Daisy and Julius (2025) determined the correlation between cash flow management methods and financial performance. Focussing on non-financial companies listed on the Nairobi Security Exchange, this study sought to analyse the impact of cash flow analysis on their financial performance as well as the effects of investing and operating cash flows. It also sought to examine the impact of financing cash flows. The theories of free cash flow, agency costs, and Keynesianism served as the theoretical framework for the research. Approach: A cross-sectional study approach was utilised, and a total of 44 businesses that were listed at NSE from 2017 to 2023 were utilised as a sample. Secondary data came from a variety of sources, including annual financial reports and other financial statements covering the years 2017–2023. We used STATA software to analyse the data. In order to analyse the data, descriptive and inferential statistics were employed. Inefficient investment decision-making and an over-reliance on external financing were shown by the negative effects of investing and financing cash flows on financial performance, in contrast to the favourable benefits of operating cash flows. Poor investment and finance choices may threaten financial stability, whereas good management of operational cash flows improves business performance, according to the study. Novel Implications for Theory, Practice, and Policy: The results could have important implications for the management of different companies, for financial policymakers, for the government's assessment of companies' tax performance, and, finally, for the academic community. To improve liquidity and profitability, businesses should implement good working capital policies, optimise their capital investment strategies, and keep their financial structure in the best possible position. Cash flow dynamics within industries and the function of financial technology in this area might be the subject of future studies. Focussing on three important measures of investment cash flow—the investment policy ratio, the reinvestment ratio,

and the discretionary cash index ratio—Bamisaye et al. (2024) investigated the impact of investment cash flow management on the performance of listed enterprises in Nigeria. These were examined in connection to performance indicators like turnover-asset ratio (TAR), efficiency ratio (ER), return on assets (ROA), and return on equity (ROE). Fifty publicly traded companies in Nigeria were surveyed over a ten-year period (2012–2021) using a longitudinal research approach that allowed for the collection of time-series data across cross-sectional units. On December 31, 2021, there were 177 companies listed on the Nigeria Exchange Group. These companies belonged to several sectors, including manufacturing, services, and consumer and industrial goods. The first step was to use stratified sampling to divide businesses into two groups: those whose focus was on production and those whose focus was on services. The second step was to randomly select 25 businesses from each group. Using both descriptive and inferential methods of analysis, secondary data was culled from the chosen firms' financial statements and annual reports. The results showed that cash flow management investments greatly affect performance, especially for companies that provide both products and services. It is worth mentioning that there was a positive correlation between the reinvestment ratio and ROE. This suggests that companies see better returns when they reinvest a larger share of their asset depletion into capital investment. Listed companies in Nigeria can greatly benefit from better management of their investing cash flows, according to the study's findings. In particular, improving returns and operational efficiency is greatly helped by reinvesting in lucrative ventures and managing discretionary cash flow prudently. This study's findings suggest that, to maintain and improve returns on equity and assets, companies should reinvest their asset depletion funds into productive and lucrative enterprises. The effect of cash management on the financial performance of small and medium-sized enterprises (SMEs) was investigated by Nasimiyu (2024). To provide light on financial management tactics, the review discusses theories, practices, and empirical data. The Free Cash Flow Theory and the Dynamic Trade-Off Theory are two theoretical frameworks that provide insight into the consequences for the financial management strategies of SMEs. Financial performance measures such as profitability, liquidity, and solvency, as well as cash policy, cash budgeting, and internal controls, are crucial, according to empirical research. For small and medium-sized enterprises (SMEs), stable finances, optimal investments, increased profitability, and growth are all possible outcomes of well-managed cash flow. Academics, practitioners, and policymakers may all learn a lot from this synthesis about

how to improve the financial performance of SMEs by implementing better cash management techniques.

The interconnections between operational, investment, and financing cash flows as well as firm liquidity were the primary emphasis of Rahman and Sharma (2020). The study highlighted the importance of managing investing cash flows effectively, which includes making wise judgements about capital expenditures and allocating resources. These factors directly impact a firm's capacity to maintain operations and increase profitability. According to their research, investors have a lot of faith in publicly traded companies based on the accuracy of their cash flow reports. Kuria, Memba, and Oluoch (2024) looked at how NSE-listed companies' operating cash flow volatility correlated with their stock market valuation. Nonetheless, the stock market valuation of firms—the dependent variable in this study—was measured using company capitalisation and capitalisation ratio. The financial performance of the listed companies at the NSE was measured in this research using return on assets. The researchers also used a quantitative causal descriptive approach.

Using a sample size of 120 SMEs, Uwonda and Okello (2015) examined the relationship between SME cash flow management and sustainability in northern Uganda. Data was gathered through the use of questionnaires. We analysed the data using multiple logistic regressions and correlation analysis. Small and medium-sized enterprises (SMEs) were shown to be more resilient when cash flow management and cash planning were in place. Need to implement more cash flow management methods, measure their impact on performance, and conduct a local replication of the study to provide more relevant findings were both highlighted by the study's empirical and contextual limitations. A study was conducted by Muthama (2016) in Kisii County, Kenya, to determine the impact of cash flow management strategies on the operational performance of several public hospitals. Cash budgets, bank accounts, and bookkeeping were the intended subjects of the study. The sample included 31 public hospitals. Using SPSS, the research used descriptive and inferential statistics. Operational performance was found to be improved by cash flow management, according to the study. To be more precise, performance was determined to be significantly correlated with cash budgeting techniques. Other performance metrics, such as the profitability of the firms, should be evaluated, and the study reveals empirical gaps about the necessity to incorporate additional cash management variables.

Using Cape Metropolis, South Africa as their case study, Maduekwe and kamala (2016) investigated how SMEs utilised budgets. Finding out what kinds of budgets SMEs use, how they use them, why they use them, how effective they are, and what would stop them from using them were the primary goals of the study. The results of the descriptive and inferential statistical analyses were based on data gathered from a questionnaire. Budgets were utilised by the majority of the surveyed SMEs, according to this study's findings. The results also showed that the most common uses of budgets were control, future planning, measurement of company performance, and monitoring. The impact of the budgeting system on the success of entrepreneurial businesses was investigated by Akande, Olusola, and Oluwaseun (2014) from the viewpoint of small business owners in Lagos, Nigeria. The researchers employed a multi-stage probability sampling method. At the end of March 2014, there were 4,585 small and medium-sized enterprises (SMEs) registered in Lagos state. Out of 120 entrepreneurs surveyed, 104 (or 86% of the total) provided usable questionnaires, which were then analysed, summarised, and interpreted using a descriptive statistical technique based on simple percentages. To evaluate the hypothesis that was formulated, a nonparametric statistical test and chi-square were utilised. A strong correlation between MSEs' financial success and their budgeting strategies was found in the study.

In their study of SMEs in Nyeri County, Kenya, Kamau and Mungai (2020) determine how cash budgeting techniques impact SMEs' profitability. It was the Return on Assets (ROA) that was used to measure profitability. The study's researchers employed systematic sampling to pick which small and medium-sized enterprises (SMEs) to include in their sample of workers and officials. One hundred participants, largely from management positions, were among the 311 respondents who made up the study's sample. Primary data was collected using questionnaires. We used Cronbach's Alpha Reliability test to check the instrument's reliability, and we used expert opinion to check its content validity. Statistical Package for the Social Sciences (SPSS) was utilised by the researcher for the purpose of data analysis. The research analysed its data using descriptive and inferential statistics. On top of that, we ran diagnostic tests to make sure the data set was suitable for specific statistical methods like regression analysis. Among the diagnostic tests that were administered were tests for heteroscedasticity, multicollinearity, and normality. Preliminary and secondary analyses were conducted on the collected data. Means and standard deviations were part of the descriptive statistics. Regression and Pearson correlation analyses were part of the inferential statistics. Cash flow management and its components accounted for 78.49% of the variance in profitability, according to R squared, the coefficient of determination. In relation to the outcomes of the regression analysis, the cash budgeting coefficient ($\beta=0.601$, $p=0.021$) indicates that cash budgeting significantly impacts profitability. Cash

budgeting is positively and statistically significantly related to profitability, according to Pearson correlation analysis (r=0.662, p=0.001). Based on the results, it appears that the study's recommendation that SME managers make sure there is enough money saved up to deal with unexpected negative cash flows is not being followed. Also, the government should think about providing financial literacy training to SMEs through her agencies like the National Chamber of Commerce and Industry and the Small and Medium Enterprise Authority. This would help them learn the best practices for managing their businesses, particularly when it comes to cash budgeting.

A study conducted by Mulani, Chi, and Yang (2015) examined how SMEs in India were affected by budgeting in terms of their performance. We conducted in-depth analyses of these businesses to determine the effect of budgeting on their success. In order to analyse the problem statement, surveys and other statistical tools were utilised. Two hundred and eighty-eight businesses were chosen at random from India's SME sector. Three districts—Mumbai, Pune, and Solapur—made up the sample. According to the study's findings, the features of the budget targets have a greater impact on the performance of small and medium-sized enterprises (SMEs) in India. In the central business district of Nairobi, Kenya, Warue and Wanjira (2013) investigated how small and medium-sized enterprises (SMEs) in the hotel sector make their budgets. The study employed a descriptive research design. The target population included 98,608 small businesses registered in the central business district of Nairobi. The selection process for the sample made use of stratified random sampling. The types of small and medium-sized enterprises (SMEs) in the hospitality sector formed the basis for the population stratification. Of the 526 SMEs in the CBD's hospitality business, 104 were selected for the sample. Computerised accounting, worker participation, business size, ownership, skills, and manpower all have a role in SMEs' budgeting processes and overall effectiveness, according to the researcher.

Small and medium-sized enterprises (SMEs) in India were the focus of Hoque's (2017) research on the effects of mental budgeting on financial management. A systematic questionnaire was used to conduct the interviews, and descriptive statistics were used to analyse the results. Utilised methods included principal component analysis and an ordinal logistic regression survey of SME owners. Chittagong, Bangladesh is home to 201 SMEs that were chosen at random. According to the study's findings, micro-credit is second most common behind personal savings and loans from family when it comes to funding businesses. Most of the family's spending money came from the family company. Additionally, the results demonstrate that Mental

Budgeting (MB) and its determinants, such as knowing financial products, having an overview of checking balances, never spending more than a fixed amount, having an orientation towards the future, and other sources of income over existing businesses, significantly impact the financial management of SMEs. Between 2005 and 2012, Alshatti (2014) studied the profitability of Jordanian commercial banks to determine the impact of corporate liquidity management. Corporate liquidity indicators utilised in the study included investment ratios, quick ratios, capital ratios, and liquid assets ratios. Return on equity and return on asset were utilised as profitability indicators, with descriptive and regression analysis employed. The research concluded that a rise in the investment ratio and the quick ratio had a beneficial effect on profitability. On the other hand, the profitability of Jordanian commercial banks was found to be negatively impacted by the capital ratio and the liquid assets ratio.

From 2000-01 to 20014-15, Saravanan and Jayanthi (2016) looked at how some Indian textile industries' liquidity governance affected their profitability. The research made use of descriptive statistics, analysis of variance, and regression analysis as its statistical techniques. The study's results show that various financial metrics, such as liquidity, profitability, activity, and financial leverage, affect total profitability. The sample companies' financial performance and positions were reviewed, and it was found that the corporate liquidity and solvency status needs improvement. The research found that Indian textile companies are doing well. From 2010–2011 to 2014–2015, Patjoshi (2016) analysed the financial performance and corporate liquidity management of a sample of Indian steel businesses. Analysis of the gathered data has included descriptive statistics, correlation, regression, and other financial ratios. Operating profit margin, net profit margin, return on total assets, and return on investment are all measures of profitability. The experiential examination using both regression and correlation analysis reveals that corporate liquidity ratios—current ratio, liquid ratio, inventory turnover ratio, current assets turnover ratio, and current liabilities to total assets—have a significant relationship with these metrics.

From 2010 through 2014, Patjoshi (2016) looked at the financial performance and corporate liquidity management of a few Indian steel businesses. Current ratio, liquid ratio, and inventory turnover ratio were the three characteristics of business liquidity that were examined in the study. Concurrently, it used operational profit margin, net profit margin, return on total assets, and return on investment as surrogates for profitability. Corporate liquidity significantly impacts performance, according to the correlation and regression findings. Using data from the

Nairobi Stock Exchange, Njure (2014) analysed the correlation between corporate liquidity and profitability for non-financial enterprises. We examined the corporate liquidity of the companies using the current ratio, quick ratio, and absolute liquid ratio, and we utilised the return on assets (ROA) as a proxy for profitability. Among Kenya's publicly traded non-financial businesses, there is a weak but statistically significant positive correlation between corporate liquidity and profitability. Similarly, Jayarathne (2014) looked at how listed Sri Lankan companies fared financially from 2008 to 2012 and how working capital management affected their bottom lines. It turned out that the accounts receivable duration, inventory turnover period, and cash conversion cycle were inversely related to profitability. Accounts payable period, on the other hand, is positively correlated with it.

Literature Gap

According to the meta-analysis of research on financial performance, nearly all of the studies had very narrow time frames. With the exception of Garcia and Martins (2011), all of the studies that analysed the data relied on descriptive statistics, correlation, and the ordinary least squares regression method. To study the connection between WCM and European enterprises' profitability, Garcia and Martins (2011) used a mixed-methods approach, combining OLS and GLS regression. The study fails to satisfy the current study's objectives because it doesn't look at how corporate liquidity relates to ROI, ROE, and EPS. Furthermore, the liquidity and value of corporations have not been included in any of the research. Consequently, this research looked at the relationship between cash budgeting and profitability for SMEs in Nigeria that are publicly traded.

METHODOLOGY

This study followed the descriptive research methodology of Ajanthan (2013), Agyei and Yeboah (2011), and Ben-Caleb et al. (2013). Researching a scenario with the goal of elucidating the interrelationships among its factors is the main focus here (Priya & Nimalathasan, 2013). All ten small and medium-sized businesses listed on the Nigerian Stock Exchange as of December 31, 2024 made up the study's population.

From 2015 through 2024, the listed industrial products manufacturing enterprises' annual financial reports were used as secondary data for the study. Publications and websites of the Nigeria Stock Exchange Reports firm were consulted for the financial reports.

Model Specification

A multivariate linear regression model with dependent and independent variables will be developed to accomplish the study's objectives and test the hypotheses. What follows is a presentation of the regression models;

$$EPS = \beta_0 + \beta_1 OC_{it} + \beta_2 ECIF_{it} + \beta_3 ECOF_{it} + \beta_4 ECB_{it} + \beta_5 NCF_{it} + \mu_{it} \quad (1)$$

EPS = Earnings per share

OC= Operating cash flow

ECIF = Estimated cash inflow

ECOF = Estimated cash outflow

ECB = Estimated cash balance

NCF = Net cash flow

$\varepsilon 1$ = Stochastic or disturbance/error term.

t = Time dimension of the variables

α0 = Constant or intercept.

Prior Expectation of the Result

Increasing the explanatory variables is expected to increase the dependent variable, corporate value, according to the a priori variables. This expectation can be mathematically expressed as follows:- a_1, a_2, a_3 $a_4. >0$.

Technique for Data Analysis

The data was analysed using a combination of descriptive and inferential statistics. The data's essential features were summed up using descriptive statistics. Mean, median, minimum, and maximum were all part of the statistical package. The relationship between the worth of the firm and each of its attributes was also explained using a correlation matrix. Because it aids in determining relationships, causes, and effects between the variables, panel data regression was deemed suitable. The research used Ordinary Least Square (OLS), Fixed Effect, and Random Effect regression to find the optimal method of analysis. For these methods to provide accurate estimates, a number of assumptions and conditions need to be satisfied. Nonetheless, the Lagrangian Multiplier Test (random effect or OLS) and the Hausman Specification test (fixed effect or random effect regression) determined the optimal tactic. In contrast to ordinary least squares (OLS), which aggregates data and treats it as though it were acquired from a single source, random effects takes the panel effect into consideration in the data. Multiple tests for robustness, including the Multicolinearity, Hausman, Lagrangian multiplier, and heteroscedasticity tests, will be performed to ensure the results are reliable (Gujirati, 2003).

T-test: The t-test was employed to determine whether each estimated coefficient is statistically different from zero or whether the observed coefficient value could have occurred by random chance in Equation (2). The significance of the

coefficients was assessed at both the 95% and 99% confidence levels.

F-test The F-statistic The F-statistic was used to examine whether the overall relationship specified in Equation (2) is statistically significant, that is, whether the set of independent variables jointly explains variations in the growth indicators of the individual firms. This test was also conducted at the 95% and 99% confidence levels.

R2 - Change The R-squared (R^2) The R-squared (R^2) value, which ranges from 0 to 1, as well as the adjusted R-squared that accounts for degrees of freedom, measures the explanatory strength or goodness of fit of the regression model by indicating the proportion of variation in the dependent variable explained by the independent variables.

ANALYSIS AND DISCUSSION OF FINDINGS

Table 1: Descriptive Statistics

	EPS	OC	ECIF	ECOF	ECB	NCF
Mean	15.69915	1.364240	12.64596	9.085960	11.80620	2.993040
Median	16.12166	1.025000	7.145000	4.635000	8.145000	2.100000
Maximum	19.82281	151.5400	156.0100	129.2900	287.0000	37.48000
Minimum	0.000000	-402.3100	0.000000	0.010000	-9.600000	-127.6200
Std. Dev.	2.795112	31.85531	18.52005	15.07775	20.56506	10.39352
Skewness	-3.526544	-8.679745	3.536124	4.443300	9.971938	-8.498673
Kurtosis	20.44160	112.0321	20.33498	28.10873	130.2923	106.5287
Jarque-Bera	3687.036	126972.4	3651.230	7389.794	172928.0	114657.3
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Sum	3924.787	341.0600	3161.490	2271.490	2951.550	748.2600
Sum Sq. Dev.	1945.351	252675.4	85405.07	56607.33	105307.5	26898.28
Observations	100	100	100	100	100	100

Source: E-view 12.0

Table 1 presents the descriptive statistics—specifically the mean and standard deviation—for each variable related to cash budgeting estimates and earnings per share among quoted small and medium-scale enterprises. The results indicate that earnings per share record a mean value of 15.69915 and a standard deviation of 2.795112, with observed values ranging from a minimum of 0.000000 to a maximum of 19.82281. Operating cash shows a mean of 1.364240 and a standard deviation of 31.85531, with values spanning from −402.3100 at the minimum to 151.5400 at the maximum. Estimated cash inflow has a mean of 12.64596 and a standard deviation of 18.52005, with figures ranging between 0.000000 and 156.0100. Similarly, estimated cash outflow records a mean of 9.085960 and a standard deviation of 15.07775, with values ranging from a minimum of 0.010000 to a maximum of 129.2900. Finally, estimated cash balance exhibits a mean of 11.80620 and a standard deviation of 105307.5, with observed values ranging from −9.600000 to 287.0000.

Table 2: Correlations

t-Statistic Probability	EPS	OC	ECIF	ECOF	ECB	NCF
EPS	1.000000					
OC	-0.039619	1.000000				
	-0.624412	-----				
	0.5329	-----				
ECIF	0.006379	0.014660	1.000000			
	0.100456	0.230891	-----			
	0.9201	0.8176	-----			
ECOF	0.053287	-0.062117	-0.066451	1.000000		
	0.840360	-0.980114	-1.048782	-----		

	0.4015	0.3280	0.2953	-----		
ECB	0.089534	-0.032882	-0.002052	-0.007464	1.000000	
	1.415676	-0.518109	-0.032308	-0.117545	-----	
	0.1581	0.6048	0.9743	0.9065	-----	
NCF	0.039574	-0.042397	0.020826	0.028169	0.061061	1.000000
	0.623695	-0.668270	0.328041	0.443779	0.963395	-----
	0.5334	0.5046	0.7432	0.6576	0.3363	-----

Source: E-view 12.0

The results of Pearson product moment correlation as shown on table 2 above indicates that operating cash have negative correlation to earnings per share while other variables have positive correlation to the dependent variable. The significant relationship implies that a unit increase in estimates for the variables will produce a proportionate increase on earnings per share of firms except operating cash. The positive effect of the variables is expected based on the cash management theory and opinions of scholars.

Table 3: Pedroni Residual Cointegration Test

Alternative hypothesis: common AR coefs. (within-dimension)				
	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	-1.502651	0.9335	-2.471772	0.9933
Panel rho-Statistic	2.821364	0.9976	3.056075	0.9989
Panel PP-Statistic	-3.116335	0.0009	-2.607542	0.0046
Panel ADF-Statistic	-1.208208	0.1135	-2.046540	0.0204
Alternative hypothesis: individual AR coefs. (between-dimension)				
	Statistic	Prob.		
Group rho-Statistic	3.888182	0.9999		
Group PP-Statistic	-4.799007	0.0000		
Group ADF-Statistic	0.638230	0.7383		

Source: E-view 12.0

In order to find signs of a long-term association, the Kao residual co-integration test is used. With a probability level of 0.000, which is lower than the 5% significance threshold, the preceding Augmented Dickey Fuller t-statistics result of -4.799007 provides strong evidence in favour of the presence of a long run association between the variables that were used. In spite of fluctuations and shocks in the local financial environment, this demonstrates that the trend between the employed variables is consistent.

Table 4: Pooled Effects Regression Output.

Dependent Variable: EPS

Method: Panel Least Squares

Date: 12/13/25   Time: 13:39

Sample: 2015 2024

Periods included: 10

Cross-sections included: 10

Total panel (unbalanced) observations: 100

Variable	Coefficient	Std. Error	t-Statistic	Prob.
OC	-0.027520	0.018537	-1.484626	0.1394
ECIF	0.006164	0.011304	0.545285	0.5862
ECOF	-0.000684	0.001671	-0.409690	0.6825
ECB	-0.004940	0.024711	-0.199918	0.8418
NCF	0.346231	0.079665	4.346080	0.0000

C	12.34463	1.141325	10.81605	0.0000

	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.450903	Mean dependent var		15.48651
Adjusted R-squared	0.375889	S.D. dependent var		1.496427
S.E. of regression	1.182187	Akaike info criterion		3.288565
Sum squared resid	255.7547	Schwarz criterion		3.704358
Log likelihood	-317.6551	Hannan-Quinn criter.		3.456673
F-statistic	6.010970	Durbin-Watson stat		1.171385
Prob(F-statistic)	0.000000			

Source: E-view 12.0

According to the data in Table 4, it is clear that operating cash had a negative coefficient of -0.027520, estimated cash outflow had a negative coefficient of -0.000684, estimated cash balance had a negative coefficient of -0.004940, estimated cash inflow had a positive coefficient of 0.006164, and net cash flow had a positive coefficient of 0.346231. However, no variable was determined to be statistically significant. The fact that the utilised predictor variables collectively explain 37.5% of the dependent variable's variation is the model's basic flaw. The second issue with the pooled effect regression type is that it does not account for the fact that each of our firms is unique and has its own unique characteristics. We reject this outcome since no two businesses are identical.

Table 5: Fixed Effects Regression

Dependent Variable: EPS

Method: Panel Least Squares
Date: 12/13/25 Time: 13:40
Sample (adjusted): 2016 2024
Periods included: 10
Cross-sections included: 10
Total panel (unbalanced) observations: 100

Variable	Coefficient	Std. Error	t-Statistic	Prob.
OC	0.031833	0.021738	1.464365	0.1452
ECIF	-0.002254	0.010906	-0.206628	0.8366
ECOF	0.000855	0.001383	0.617888	0.5376
ECB	-0.025468	0.042420	-0.600367	0.5492
NCF	0.491632	0.310887	1.581382	0.1159
C	11.45086	3.658080	3.130293	0.0021
ECM(-1)	0.320661	0.062234	5.152480	0.0000

	Effects Specification			
Cross-section fixed (dummy variables)				
Period fixed (dummy variables)				
R-squared	0.627319	Mean dependent var		15.43487
Adjusted R-squared	0.543956	S.D. dependent var		1.403377
S.E. of regression	0.947715	Akaike info criterion		2.897577
Sum squared resid	136.5208	Schwarz criterion		3.502330
Log likelihood	-235.9235	Hannan-Quinn criter.		3.142623
F-statistic	7.525169	Durbin-Watson stat		1.858710
Prob(F-statistic)	0.000000			

Source: E-view 12.0

With a probability level well below the 5% significance level, the coefficient indicates that all cash budgeting factors used by enterprises have a strong tendency to increase earnings per share of employed firms. A negative coefficient is shown by expected cash inflow and estimated cash balance on earnings per share, whereas a positive coefficient is shown by operating cash flow, anticipated cash outflow, and net cash flow. With the exception of the intercept/constant, which does not change over time, this model (the Fixed Effect or LSDV model) permits heterogeneous components and uniqueness among the variables used. After that, we use the random effect to see if the used variables have a common mean value and if they affect the criteria variable. Results show that CCC has a weakly negative correlation with ROA and EBIT of the companies surveyed, which is consistent with what Majeed et al. (2013) found. Owolabi and Obida (2012) also discovered a negative relationship between CCC and ROA, but theirs was significant. Ben-Caleb et al. (2013) came to a different conclusion; they found an insignificant negative relationship. On the other hand, Owolabi and Obida (2012) found that as CCC is shortened, ROI and ROA will improve significantly. However, a different result may be obtained by extending the study period and using a regression technique to analyse the data. Finding a substantial negative correlation between corporate liquidity and profitability, Priya and Nimalathasan (2013) observed. However, Manyo and Ogakwu (2013) and Ajanthan (2013) disagree with this conclusion.

Table 6: Random Effects Regression

Dependent Variable: EPS

Method: Panel EGLS (Cross-section random effects)

Date: 12/13/25   Time: 13:40

Sample (adjusted): 2016 2024

Periods included: 10

Cross-sections included: 10

Total panel (unbalanced) observations: 100

Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
OC	-0.011892	0.014979	-0.793890	0.4283
ECIF	0.003777	0.005708	0.661586	0.5091
ECOF	0.000627	0.001266	0.495720	0.6207
ECB	-0.006225	0.020833	-0.298818	0.7654
NCF	0.366518	0.065252	5.616963	0.0000
C	11.71452	0.900150	13.01397	0.0000
ECM(-1)	0.577750	0.049386	11.69873	0.0000
	Effects Specification			
			S.D.	Rho
Cross-section random			0.000000	0.0000
Idiosyncratic random			0.935500	1.0000
	Weighted Statistics			
R-squared	0.445626	Mean dependent var		15.43487
Adjusted R-squared	0.427147	S.D. dependent var		1.403377
S.E. of regression	1.062175	Sum squared resid		203.0789
F-statistic	24.11509	Durbin-Watson stat		1.747106

Prob(F-statistic)	0.000000		
	Unweighted Statistics		
R-squared	0.445626	Mean dependent var	15.43487
Sum squared resid	203.0789	Durbin-Watson stat	1.747106

Source: E-view 12.0

As the aforementioned random effect illustrates, the employed predictor variables have a lesser predictive capacity. This is demonstrated by the fact that the employed predictor variables only explain 42.7% of the variance in earnings per share of the mentioned small and medium scale firms (R-squared = 0.427147). The discordance between the used variables and their intrinsic residuals is demonstrated by the extremely low idiosyncratic random Rho value of 0.0000. With the exception of net cash flow, no variable significantly affects profits per share in this impact. Operating cash flow and estimated cash balance also exhibit negative coefficients. On the other hand, estimated cash inflow, estimated cash outflow, and net cash flow all show positive effects. Ajanthan (2013) found that CR and QR had a substantial positive association with ROA, whereas LR had a negligible positive relationship.

The positive effects of the variables support the study's expectations and are consistent with these findings. According to research conducted by Agbada and Osuji (2013), Manyo and Ogakwu (2013), Ben-Caleb et al. (2013), and Sandhar and Janglani (2013), there is no significant positive or negative effect of corporate liquidity on the profitability of the sampled firms. On the other hand, CCC has no effect on ROCE, and the size of the sampled firms—as measured by the natural logarithm of total sales—has a positive and significant effect on ROCE of Nigerian manufacturing companies during the study period. According to the t-test results of Ajanthan (2013), Manyo and Ogakwu (2013), Bhunia et al. (2011), and Zygmunt (2013), a rise in a company's total liquidity level has a positive effect on profitability.

Table 7: Hausman Specification Test output

Test Summary		Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random		67.816475	6	0.0000
Variable	Fixed	Random	Var(Diff.)	Prob.
OC	-0.016375	-0.011892	0.000002	0.0004
ECIF	-0.000356	0.003777	0.000079	0.6428
ECOF	-0.000812	0.000627	0.000000	0.0006
ECB	0.003113	-0.006225	0.000019	0.0336
NCF	0.334141	0.366518	0.000076	0.0002
ECM(-1)	0.316052	0.577750	0.001262	0.0000

Source: E-view 12.0

The null hypothesis (which states that the random effect is true) is rejected by the Hausman specification test because of its cross-section random chi-square statistics, which come out to 67.816475 at a probability level of 0.0000. Hence, the alternative hypothesis supports the fixed model's effect. Hence, for the time being, the employed variables are bound by the validity of the fixed model's empirical output.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This empirical study used cross-sectional data from 2015–2024 to examine the impact of cash budgeting on the profitability of listed small and medium-scale firms. Cash budgeting accounted for 54.3% of the variance in EPS for the listed companies, according to the study's fixed effect model. With a probability level well below the 5%

significance level, the coefficients demonstrated that all cash budgeting variables used by enterprises have a strong tendency to increase earnings per share of employed firms. A negative coefficient is shown by expected cash inflow and estimated cash balance on earnings per share, whereas a positive coefficient is shown by operating cash flow, anticipated cash outflow, and net cash flow. The research shows that cash budgeting factors impact diluted earnings for publicly traded companies in different ways.

Recommendations

i. In general, it follows that small and medium-sized businesses should better manage their cash flow from investments and that quoted manufacturing firms should improve their operational efficiency. For quoted small and medium-sized businesses to avoid instances of cash excess or deficit,

management should assess cash inflow and outflow.

ii. In order to attain long-term financial growth, stability, and improved profitability, small and medium-sized businesses must embrace and strictly adhere to solid cash budgeting procedures.

iii. The study suggests that managers or owners of SMEs whose entities hadn't met expectations might think about taking a page out of their competitors' playbooks if they want to improve their own performance.

iv. The study suggests that small and medium-sized enterprise (SME) owners and managers think about fixing the few cash budgeting issues brought up by the results, since cash budgeting techniques were discovered to have a favourable effect on profitability.

v. It is important to have a sufficient emergency fund to cover unexpected negative cash flows, which, according to the results, was not the case. Budget surpluses and deficits must also be thoroughly and consistently analysed to determine what is causing the discrepancies.

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