ASSET MANAGEMENT AND PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES IN NAIROBI COUNTY, A CASE OF NON-ALCOHOLIC BEVERAGES' COMPANIES

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DECLARATION

I, the undersigned, affirm that this thesis is my original work and has not been submitted to any other university or institution for academic credit.

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DEDICATION

This work is dedicated to my family, who have been my greatest support system in this journey towards achieving my Masters' Degree. They have constantly encouraged and believed in my ability to push through this academic journey. I will forever be grateful**.**

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ABSTRACT

This thesis examined the impact of asset management practices on the performance of small and medium enterprises (SMEs) within the Nairobi County with reference to the non-alcoholic beverage industry. The economy of Kenya is predominantly based on SMEs which fail to compete with regard to profitability, market share and ROI where the management of human, financial, infrastructure and temporal resources is poor. Using Human Capital Theory, Resource-Based View, Theory of Constraints and Pecking Order Theory, the study was based on mixed-methods design. Structured questionnaires were used to gather quantitative data of 105 respondents and semi-structured interviews with key informants were used to provide qualitative insights. Descriptive analysis revealed that time and human resource management were most important areas of concern and financial management practice was usually inflexible. Inferential conclusions were made to the effect that time management ($b = 0.760$, $p < 0.001$) and human resource practices ($b = 0.329$, $p < 0.003$) had a significant positive impact on performance, and hard financial controls had a negative effect. The regression model predicted 91% of the VME ($R2 = 0.910$) and ANOVA scores verified its global significance ($F(24, 80) = 33.80$, $p < 0.001$). Thematic analysis demonstrated that five issues recurred, namely; asset acquisition, employee involvement, infrastructural gaps, time bottlenecks, and performance outcomes, which validated and put the quantitative results into perspective. This work finds that the role of integrated asset management is central to the competitiveness and sustainability of SMEs. It advises SME owners to pursue practices in finance that are flexible, invest in sustained development of personnel, and enhance time management systems. Policymakers ought to grant infrastructural facilities and specialized training to increase the resilience and the long-term development in the sector..

ABBREVIATIONS AND ACRONYMS

SME	Small and Medium Enterprise
ROI	Return on Investment
SPSS	Statistical Package for the Social Sciences
NVivo	Qualitative Data Analysis Software
KAM	Kenya Association of Manufacturers
HRM	Human Resource Management
NACOSTI	National Commission for Science, Technology and Innovation
ANOVA	Analysis of Variance
GDP	Gross Domestic Product
RBV	Resource-Based View
HCT	Human Capital Theory
POT	Pecking Order Theory
TOC	Theory of Constraints
ICT	Information and Communication Technology
OECD	Organisation for Economic Co-operation and Development
SEM	Structural Equation Modelling
PLS-SEM	Partial Least Squares Structural Equation Modelling
SD	Standard Deviation
CI	Confidence Interval
FDI	Foreign Direct Investment
FMCG	Fast-Moving Consumer Goods

OPERATIONAL DEFINITION OF KEY TERMS

Asset Management	A systematic process of acquiring, utilizing, and maintaining assets (human, financial, infrastructure, and time) to maximize efficiency and performance (Mwangi & Ndiritu, 2023; OECD, 2022).
SME Performance	Measured through profitability, ROI, and market share, reflecting the ability of SMEs to sustain competitiveness and growth (Abor & Quartey, 2022; Senaya, 2025).
Return on Investment (ROI)	A financial ratio measuring efficiency of investment, calculated as net profit relative to invested capital (Yakob et al., 2021; Mang'ana et al., 2023).
Infrastructure	Physical and technological assets (facilities, machinery, digital systems) supporting production and delivery (Alkhattali et al., 2025; Sseruwagi & Kato, 2025).
Human Resource Management (HRM)	Strategic practices including recruitment, training, performance appraisal, and retention to optimize workforce productivity (Hassan et al., 2023; Shamsudin et al., 2023).
Time Management	Efficient scheduling and completion of tasks within deadlines to minimize delays and enhance competitiveness (Emele, 2024; Kuik & Diong, 2025).
Financial Management (FM)	The planning, organizing, and monitoring of financial resources to achieve profitability and sustainability (Wachira, 2024; Amadasun & Mutezo, 2025).
Asset Utilization	The degree to which physical, human, and financial resources are effectively applied to achieve business objectives (Vásquez-Torres et al., 2021; Jones et al., 2013).
Market Share	A measure of a company's sales volume relative to the total industry, reflecting competitiveness and positioning (OECD, 2023; Beynon et al., 2014).
Profitability	The firm's ability to generate surplus revenue over costs, often measured through margins and net income (Konings & Putseys, 2025; Ariyo & Akinola, 2020).

CHAPTER ONE

1.0 Introduction

This section outlines the complete overview of the study, incorporating background information, a problem statement, revising the objectives, questions, significance, scope, and the conceptual framework of the study. Also, it addresses the problem of asset management in SMEs and their significance in Nairobi's non-alcoholic beverage industry, where there are challenges in allocating resources. The purpose of the study is to examine the impact of integrated asset management on the performance of the SMEs with the intention to advance operations and provide policy and strategy framework on the development of SMEs in Kenya.

1.1 Background of the Study

1.1.1 Global Perspective of Asset Management

The concept of asset management is universally known as a cross-functional process that adds value to organizational resources through the consolidation of engineering, operations, and management operations to increase the life cycle and the payback period of the assets (Lagerway, 2025). Governments in developed economies focus a lot on asset management as evidenced by the Malaysian government investing RM 400 billion in its public assets according to the 12th Malaysia Plan (Ramasanny, 2025). In addition to infrastructure, knowledge and human capital became vital organizational resources, and in literature, the combination of employee expertise and the use of technology has proven important in the long-term competitiveness (Chiadmi, 2025; Enakrire, 2025; Rindova, 2024). This type of integration not only makes innovation possible, but also promotes efficiency and places the firms in a position to react efficiently to the dynamic world markets (Mubarak, 2025). These revelations affirm that the concept of asset management does not only cover the physical assets but also human resources, finance, infrastructure and time, the four dimensions of assets that form the basis of this research study.

Cities like New York, London and Singapore have shown how asset management is at the core of urban competitiveness and emerging economies in Africa, Asia and Latin America have the opportunity to jump frog using digital technologies and sustainable approaches (Shmelev, 2025). Asset management can lower consumption and enhance efficiency in the energy industry, where

SMEs have a significant portion of the industrial energy consumption (Segun-Falade, 2024). In the same way, introduction of digital asset management systems in the logistics and manufacturing industries has minimized the downtime and improved decision making, highlighting the possibility of SMEs to become more competitive by efficiently using their assets (Nguyen, 2024). Taken altogether, these worldwide lessons point to the fact that companies, regardless of their size, become more financially stable, resilient, and able to gain market share once they implement structured asset management (Kumar, 2025; Wang, 2025; Zhang, 2024).

1.1.2 Regional Perspective of Asset Management

Asset management is becoming associated with sustainable investment, efficiency of governance, and development of infrastructure across Africa. It has been shown that institutional investors are moving towards environmental, social, and governance (ESG)-based approaches that do not only result in financial gains but also drive long-term resilience (Bolognesi, 2023; Uzozie and Esan, 2023). Asset managers in South Africa are engaging in active ownership practices, which force firms to act in a more sustainable manner, thus enhancing financial performance (Nel and Van, 2023). On the same note, researchers have proposed that well-developed asset management within the government can strengthen the allocation of resources, improve inefficiencies, and align itself with the overarching development objectives (Makushkin and Lapshin, 2022).

Issues with poor financial infrastructure and inaccessibility to credit are still a major problem in the SME sector. Current reports by the OECD (2022, 2023) show that African SMEs can be particularly vulnerable to attempting to access financing, and their inefficiency in managing assets can make them more susceptible. On the other hand, those company representatives who introduce some organized financial frameworks, effective utilization of infrastructure, and digital technologies are more productive and sustainable. Further empirical studies of Ghana and Nigeria indicate that the working capital management and accounting systems play a decisive role in the profitability of SMEs and their survival in the long run (Musah, 2025; Zimon, 2024). Such findings strengthen the argument as to why African SMEs, particularly manufacturing, must integrate the asset management systems to maximize resources and place firms in competitive positions in the fast changing markets.

1.1.3 Local Perspective of Asset Management

SMEs play a key role in the development of the country, as in Kenya, they provide more than 90 percent of employment and more than a third of GDP (Ajaj, 2024). Most SMEs, especially those

in manufacturing, have a very bad infrastructure, poor financial habits, and inadequate investment in human capital despite the significance of them, resulting in a high failure rate within the first three years (KAM, 2018; Maina, 2024). The city county of Nairobi with the highest number of SMEs has its opportunities and challenges: on the one hand, the high concentration of businesses contributes to the emergence of new ideas and competition in the market; on the other hand, inadequate use of assets still adversely affects sustainability. The emergence of conscientious consumers also puts pressure on the firms to improve transparency and be sustainable (Maina, 2024).

Within this context, SMEs in the non-alcoholic beverage sector occupy a strategic position. The examples of Maisha Beverages, Kenafric Bottling, Savannah Brands, and Orchid Juice are the bright and developing sphere relying on the efficient use of the human resources, good infrastructure and financial management, as well as strict compliance with the production schedules. However, the sector is also experiencing a rise in the cost of input, fierce competition and low margins that compound the effects of inefficient use of assets. These facts explain why this research works on assessing the impact of integrated asset management on SMEs performance with special attention on profitability, share, and investment returns.

1.1.4 Non-Alcoholic Beverage Manufacturers in Kenya

One of the rapidly expanding manufacturing subsectors in Kenya is the non-alcoholic beverage through the increased urban demand and changing habits to healthier beverages. The sector consists of a combination of small and medium sized companies that manufacture carbonated non-alcoholic beverages, juices, bottled water, and energy drinks. Regardless of its expansion, the industry is very competitive and companies are facing difficulty in differentiating themselves and staying profitable in the resource constraint industry. Asset management is a key success factor in the industry since the industry is structurally disposed to success through fragmented ownership, dependence on imported inputs and dependence on distribution channels. The paper thus positions its research in this subsector with the argument that those firms who are efficient in managing human, financial, infrastructure, and time resources are more likely to be able to achieve sustainable performance results.

1.2 Statement of the Problem

The economy of Kenya is primarily based on Small and Medium Enterprises (SMEs) which provide more than 90 percent of the jobs and about 33-40 percent of the GDP (CBK, 2023; Ajaj, 2024). However, their performance is volatile, and the gaps in profitability, return on investment (ROI) and market share are frequent. The country statistics show that approximately 70 percent of all SMEs operating in the manufacturing industry fail within the first three years of their existence, mostly because of improper asset use and lack of correlation between resource management and performance goals (Kithure, 2023; KNBS, 2023). In the non-alcoholic beverage subsector of the fast-moving consumer goods (FMCG), which forms a major part of the Nairobi economy, the underlying performance susceptibility has been aggravated by rising input costs and dwindling profits and profit margins, coupled with increased competition (Ajaj, 2024).

Empirical evidence shows that a majority of Nairobi-based SMEs rely on outdated infrastructure and manual processes, with 65% reporting frequent production delays and quality inconsistencies (Kenya Business Guide, 2023). Second, poor human resource practices, which are manifested by low skills development and high turnover, disrupt labor productivity, whereas poor financial planning deprives capital allocation and generation of returns (KAM, 2023). Such shortcomings limit the capacity of firms to remain profitable, enhance ROI and market share in a highly competitive industry.

Even though the literature available recognizes the problems that Kenyan SMEs face, much of it addresses in isolation such factors as finance or technology, without considering the compounding impact of asset mismanagement in terms of human resource, finance, infrastructure, and time. The recent literature emphasizes that the performance results at the firm level are directly undermined by misaligned or underutilized assets, but the impact of integrated asset management on the increase in profitability, ROI, and market share among beverage SMEs in Nairobi has received minimal attention (Wachira and Mutunga, 2024; OECD, 2023). This gap highlights the fact that there is no empirical clarity about how the dimensions of asset management affect the performance of the firm as a whole in resource-constrained environments.

To this end, this study aims at resolving this dilemma by examining the impact of integrated asset management practices, which cut across human capital, financial management, infrastructure, and time on the performance of non-alcoholic beverage SMEs in Nairobi County. The study will offer evidence on the sustainable competitiveness of SMEs in the Kenya manufacturing sector by

anchoring performance on the most important dependent variable indicators of profitability, ROI, and market share, as well as, offer evidence-based understanding of theory, practice, and policy on how SMEs can sustainably compete in the manufacturing sector.

1.3 Objectives of the Study

1.3.1 General Objective

This study assessed the effect of asset management practices on the performance of non-alcoholic beverage Small and Medium Enterprises (SMEs) in Nairobi County, Kenya.

1.3.2 Specific Objectives

i. To determine the effect of human resource management practices on the performance of non-alcoholic beverage SMEs in Nairobi County.
ii. To establish the influence of financial management on the performance of non-alcoholic beverage SMEs in Nairobi County.
iii. To examine the effect of infrastructure on the performance of non-alcoholic beverage SMEs in Nairobi County.
iv. To determine the effect of time on the performance of non-alcoholic beverage SMEs in Nairobi County.

1.4 Research Questions

i. What is the effect of human resource management practices on the performance of non-alcoholic beverage SMEs in Nairobi County?
ii. What is the influence of financial management on the performance of non-alcoholic beverage SMEs in Nairobi County?
iii. What is the effect of infrastructure on the performance of non-alcoholic beverage SMEs in Nairobi County?
iv. What is the effect of time on the performance of non-alcoholic beverage SMEs in Nairobi County?

1.5 Significance of the study

This research had relevance to various parties in the non-alcoholic beverage production sector in the Nairobi County. To SME owners and managers, the results offered them practical advice on

asset management practices that improved the use of human, financial, infrastructural, and time resources. The findings revealed the effectiveness of management of these assets in the way it increased the level of profitability, ROI and market share. It was also beneficial to policymakers and regulatory agencies since the study identified certain barriers to the performance of SMEs and provided evidence to help formulate specific policies, financial support schemes, and infrastructure that would overcome the systemic failure of the sector.

The research also offered useful information to investors and financial institutions in terms of testing the asset management techniques used by SMEs in formulating financing structures and credit products. The research provided an opportunity of having practical strategies to improve the competitiveness and sustainability of manufacturing sector by determining challenges companies face in organizational and resource management in the beverage industry. In terms of academic contribution, the study provided a gap in the literature by filling in the gaps in knowledge concerning cumulative effects of the asset management dimensions on SME performance, which can be used in future scholarship; and enhancing the theoretical approach of the research on asset management in developing nations.

1.6 Scope of the Study

The conceptual framework of this research rested on the paradigm of asset management and its impact on the performance of SME. It emphasized four aspect of asset management, namely, human resource management, financial management, infrastructure and time and discussed their impact on indicators on the performance, i.e., profitability, ROI and market share. The research was geographically limited to the Nairobi County that hosts one of the highest concentrations of SMEs in Kenya especially the non-alcoholic beverage subsector. This decision offered an appropriate setting in which to evaluate the extent to which integrated asset management practices could explain the performance of firms in a competitive and resource-intensive setting.

The study was carried out over three years, 2022-24, which allowed the author to assess the asset management practices when the world was in the recession post-COVID-19. The time allowed seizing the arising issues, operational changes, and performance results. By variables, the independent variables were human, financial, infrastructural, and time management practices, and the dependent variable was SME performance in terms of profitability, ROI and market share. The research was also constrained by the fact that its sample of SMEs was restricted to the beverage

subsector in the city of Nairobi which might limit its extrapolation to other sectors or regions. Also, there was a risk of bias due to self-reported information, but triangulation and statistical validation were used to address it.

1.7 Theoretical Framework.

Resource Based View (Barney, 1991)

The Resource-Based View (RBV), inventively developed by Wernerfelt (1984) and advanced by Barney (1991) held that the universal outcome of successful utilization of resources is sustained competitive advantage by firms that possessed valuable, rare, inimitable and non-substitutable resources. Its use was widened by proponents like Peteraf (1993) and Grant (1996) who stressed that organizational performance was as much a result of resource ownership as of managerial ability to integrate, develop and defend the resources. In this paper, RBV was used to evaluate how non-alcoholic beverage SMEs in Nairobi used their internal resources such as human capital, financial management systems, infrastructure and time to improve profitability, ROI and market share. As in the prior research, companies that had invested in employee talent, financial credibility, and eminent infrastructure were better placed to be competitively viable and grow steadily over time (Alinda, 2025; Rosyafah, 2024).

The RBV was also a good fit in this research since it was directly related to the four independent variables that were being investigated. Human capital was equivalent to the value and uniqueness of the employees; financial management was response to the rare and strategically used financial resources; infrastructure was the physical assets that distinguished the capacity to compete; time was the operational efficiency and responsiveness. All these dimensions together had an impact on such firm performance indicators as profitability, ROI, and market share, which explains the centrality of RBV to the study. The theory, however, was limited especially in its underestimation on external factors including regulatory environments and market turbulence which were also instrumental in the determination of SME outcomes (Damoah, 2022). Nevertheless, the RBV was still a suitable anchoring model since it described the competitive advantage and performance results of non-alcoholic beverage SMEs in Nairobi as the configuration of internal resources.

1.8 Conceptual Framework

The conceptual framework that was adopted in this study was used to show the relationship between asset management practices (independent variables) and performance of SMEs

(dependent variable). Human resource management, financial management, infrastructure and time were the independent variables. These sources were considered to be important in defining the level of effectiveness of SMEs in the non-alcoholic beverage subsector in Nairobi. Performance was the dependent variable measured in terms of profitability, return on investment (ROI) and market share. Having coordinated the study constructs with the Resource-Based View (RBV), the framework underlined that adequate utilization of internal resources led to competitive advantage and sustainable performance in the manufacturing SMEs.

Conceptual Frame work

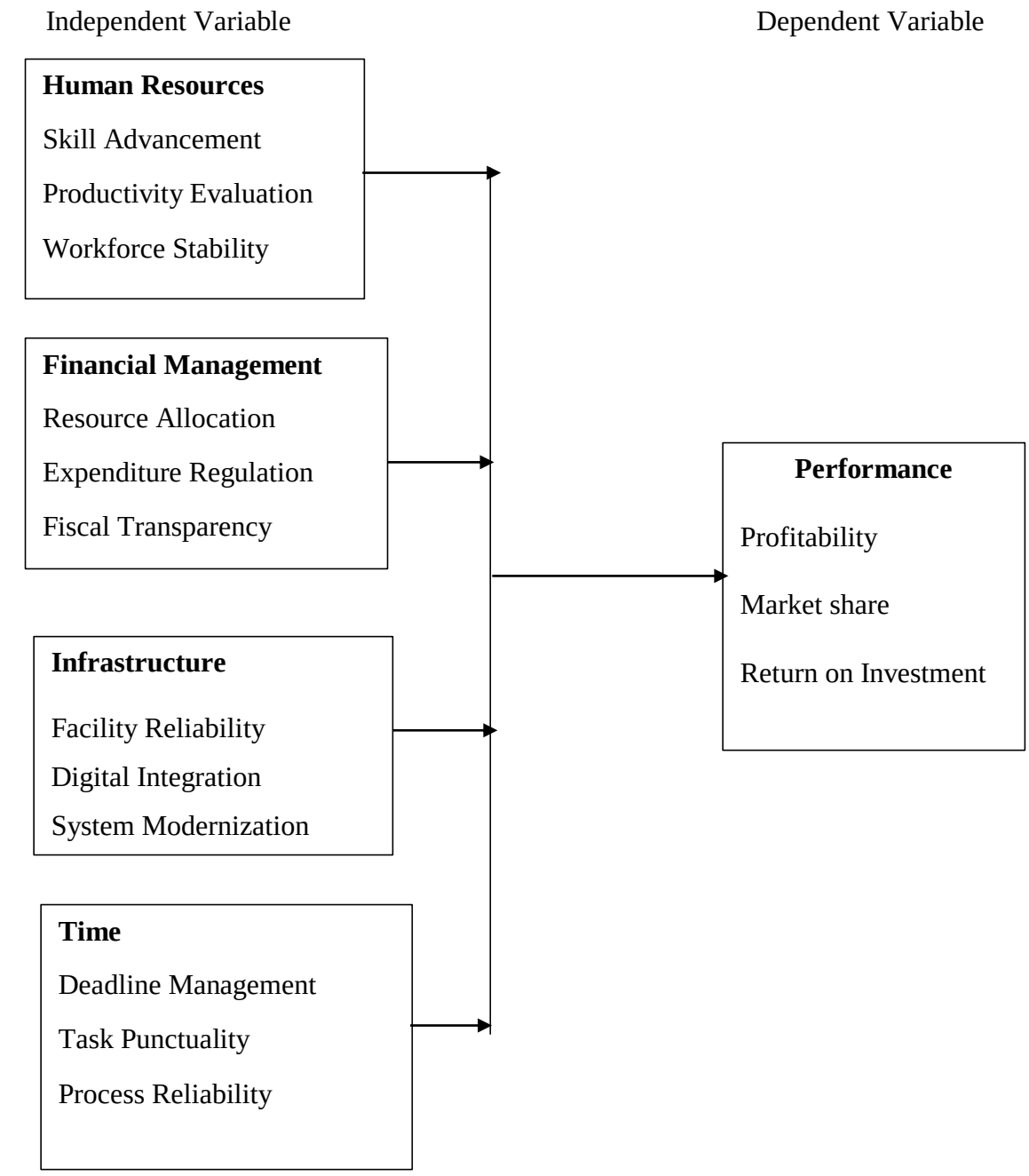


Figure 1 1 Conceptual Frame work

1.8.1 Human Resources

Human resource management was modelled as the procedures by which the SMEs improved the skills of their employees, their productivity and retention to meet the organizational goals. It demonstrated that those companies that invested in organized training, performance assessment, and employee motivation had high productivity and low turnover. The practices created a stable workforce and maintained the knowledge that existed within institutions which then enhanced efficiency. HRM led to the enhanced profitability in the non-alcoholic beverage subsector within Nairobi through its ability to align the output of employees with the strategic objectives. Companies which implemented professional development strategies helped in improving the workforce and job satisfaction, which leads to the sustainable increase in performance and competitiveness in the market.

1.8.2 Financial Management

Financial management was characterized to be the systematic distribution and management of financial resources so that it could lead to organizational efficiency and stability. The paper has determined that those SMEs that budgeted effectively, had transparent accounting and discipline in the management of expenditures were more equipped to maintain profitability and ROI. Good financial systems enabled the managers to reduce wastage, maximize on the use of capital and endure market shocks. The confidence of investors also increased in companies which exercised financial discipline which enabled them to get external financing. In the case of the Nairobi SMEs in the beverage industry, good financial management practices were the sole determinant of survival, as they allowed the companies to expand to new markets and strengthen competition performance through cash flows and improved long-term performance results.

1.8.3 Infrastructure

Infrastructure was taken to mean the physical and technical resources needed to facilitate successful operation of SMEs, such as facilities, logistics, and contemporary technologies. The research found out that SMEs that had stable infrastructure reduced delays during production and had cost efficiency which translated to enhanced profitability. Other improvements that come with modernized systems and equipment was improvement of consistency and scale of products. With the presence of digital technologies and supply chain development, the beverage subsector of Nairobi became more responsive to consumer needs. Infrastructure was thus one of the most important variables in determining market share because companies with superior systems were

in a better position to compete. With facilitating performance made sustainable, infrastructure was at the core of efficient and innovative firm performance.

1.8.4 Time

Time has been conceptualized as a vital organizational resource that affected the operational time, production time and delivery performance. The researchers discovered that the time management among SMEs minimized delays, continuous production, and also minimized costs. On time delivery of goods also boosted customer satisfaction and better customer retention leading to increased competitiveness. In the non-alcoholic beverage sector in Nairobi, time management has helped firms react fast to changes in the market and seasonal demands. Resilience was also strengthened by the capacity to rebound after disruptions including supply disruptions. All in all, time management directly helped to increase profitability, stable ROI and a better presence on the market.

1.8.5 Performance

The dependent variable was performance and was evaluated using profitability, ROI, and market share. Profitability was used to describe the ability of the firm to make an income that exceeded its operating expenses and ROI was used as a part of profitability to determine the efficiency of capital invested. Markets share was used to measure the competitiveness of the firm, as it showed its share of sales against those of the industry. The analysis determined that the stronger results of SMEs which implemented the integrated asset management practices were attained regarding these indicators. The firms that had a good management of the resources in the non-alcoholic beverage industry of Nairobi have always recorded financial stability, customer loyalty, and market position in the market.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter outlines review of theories, criticism of the theories, empirical review and knowledge gap. The object of this chapter is to review existing literature on the subject of asset management within manufacturing SMEs in Nairobi.

2.1 Review of Theories

A theory is a set of propositions that are logically consistent and describe the relationships between variables as well as predicting the results in certain situations. In scholarly work, a theoretical review is the prism of which the variables are conceptualized, measured, and related to the research problem. The fact that theory is used justifies the manner in which it is used not only in the formulation of the hypothesis, but also in the interpretation of findings within the existing knowledge. Four theories helped elucidate the independent variable in this study whereas Resource-Based View was used to anchor the dependent variable. These frameworks together gave a comprehensive view of the impact of asset management practice in the non-alcoholic beverage subsector in Nairobi on the performance of SMEs.

2.1.1 Human Capital Theory (HCT)

The Human Capital Theory was discovered by Becker (1964) who assumed that productivity and performance of companies was to increase in case of investment in training, education, and experience of employees. It postulated in its propositions that companies that developed their human resource by sustaining learning and retention models attained competitive advantage. In this study, the human resource management variable was applied by using HCT to understand the application of training employees, reducing turnover and maximizing the skills of Nairobi beverage SMEs in terms of their operational efficiency. Although the theory was applicable in the profiling of employee capability to profitability and ROI, it was criticized to assume equal payoff of training despite financial constraint and sectoral alignment. However, HCT was an appropriate lens to analyse the extent to which investments in workforce were associated with SME performance outcomes.

2.1.2 Pecking Order Theory (POT)

The Pecking Order Theory, developed by Myers and Majluf (1984), assumed that firms tried to fund through sources in a hierarchical way, i.e. internal funds followed by debt and lastly equity. The main argument it made was that companies favored internal funding in order to reduce information asymmetry, transaction costs and loss of control. This theory informed the financial management variable under the study because Nairobi SMEs mostly depended on retained earnings and informal saving and had low access to external credit. Although relevant, POT was condemned to have underestimated future sources of financing such as microfinance and digital lending that SMEs had begun to access more. Nevertheless, the theory identified the effect of financing hierarchies in determining the allocation of capital, and therefore, the profitability, ROI, and performance in the long-term.

2.1.3 Institutional Theory

The Institutional Theory was a theory that postulated that organizations were defined through formal rule, cultural standards and expectations of society, as put across by Scott (2001). Its main thesis was that companies would adapt to institutional demands in order to become legitimate and resourceful. The proposed analysis used the theory in the infrastructure variable by examining how Nairobi beverage SMEs were able to respond to the government regulations, public utilities, and digitalization policies. The IR Theory was especially applicable in the demonstration of the influence of the external policy environments on the results of the infrastructure adoption and performance. The theory however was criticized to have weakened agency at the firm level since SMEs tended to create innovations in the lapses of the institution. In spite of this shortcoming, it provided a contextual framework on how the infrastructure resources influenced competitiveness and market share.

2.1.4 Theory of Constraints (TOC)

According to the Theory of Constraints, which was created by Goldratt (1984), organizational performance was limited by bottlenecks, and their removal would lead to a significant amount of gains. Its proposal underlined that it was through the recognition and elimination of restraints in workflows, scheduling, or machine that the efficiency and output was optimized. This paper has associated TOC with time management dimension since time delays, stalling of production, and inefficiencies in delivering the beverage products were prevalent in the Nairobi beverage SMEs. With these constraints addressed, firms enhanced on-time delivery, cut costs, and enhanced

customer satisfaction. TOC was also criticized as being inward looking and tend to fail to recognize external shocks like supply shocks or regulatory changes. However, it gave a useful framework to be used to evaluate the timely operations in the support of profitability, ROI, and market share.

2.1.5 Anchoring the Dependent Variable.

The four theories elucidated the independent variables, but the dependent one, SME performance, was pegged on Resource-Based View (Wernerfelt, 1984; Barney, 1991). RBV hypothesized that sustainable performance was attained by the effective utilisation of valuable and rare, inimitable, and non-substitutable resources. The performance indicators that were discussed in this research included profitability, ROI, and market share as the consequences of the way SMEs utilized their human, financial, infrastructural, and temporal resources. The role of RBV was thus critical in associating internal resource arrangements with objective firm-level performance in the non-alcoholic beverage subsector in Nairobi.

2.2 Empirical Review

2.2.1 Human Resource Management and SME Performance

According to Konings and Putseys (2025), the subsidies on training greatly promoted SME productivity in Belgium which meant that structured HR interventions boosted profitability and competitiveness. However, its sample size was not reported, and its use of subsidized training restricted its transferability to Nairobi SMEs that do not often receive this sort of support. The point was obvious, capability building can become effective when it is financed and is directed at firm requirements. In the case of Nairobi beverage SMEs, internally financed, bite-size training and coaching would give a rough approximation of the gains without subsidies. The gap was on ROI and market share results, which had not been tested expressly. This paper bridged that gap by connecting training practices to profit, ROI and market share in a resource-constrained context.

This route to profitability was facilitated because Joo (2024) revealed that open HR policies and career development strategy boosted productivity and work satisfaction levels of European SMEs. Nevertheless, the financial performance indices like ROI and market share were not assessed, so the impact of business was not fully investigated. The results denoted that open communication and personalized career planning increased the work motivation and productivity. In the case of Nairobi beverage SMEs, the low-cost appraisal conversations and development strategies may provide the same productivity impacts. The context disjuncture was one of developed-market HR

infrastructures that are not similar to Kenya. In this study, the research question was whether these HR practices continued to relocate profitability, ROI and market share in the locality.

In a study conducted by Mohammed and Ahmad (2023), employees were committed to work through fair payments, frequent training, and management-backing, which yielded organizational outcomes and profitability. The paper, however, never described the heterogeneity of the sector and never related findings to ROI or market share. The implication was the fact that motivation mechanisms were found to have the greatest significance to employee expectation in SMEs that were cash constrained. In the case of Nairobi beverage companies, the retention and fair-pay bands would decrease the churn and recruiting expenses, which would enhance the profitability. The contextual difference was about the details of manufacture and capital-intensity. This paper has analyzed these mechanisms in terms of profitability, ROI and market share in the production of beverages.

The HRM as a strategic asset found that recruitment, engagement and training policies had a strong positive impact on the SME performance as Sungwa (2025) established. The sample was purposive and leaning towards technology and this could also skew the findings towards an already HR-mature firm. This was to institutionalize HR planning and digital HR tools to increase the consistency and throughput. Core gains at minimal cost would be replicated by lightweight HRIS and structured onboarding in Nairobi beverage SMEs. The data did not confound ROI and market share influences. This research directly used such indicators as a model to test financial payoffs of HRM in the subsector.

Fit of training methods and SME performance were demonstrated in Jones et al. (2013) to be correlated with 3521 firms in the UK, which were more profitable and had higher training ROI when training content suited the sector. This huge developed-market sample might be too big to represent practicality to capital-constrained SMEs. What this meant was to customize delivery (on-the-job, micro-modules) to production realities. To the Nairobi beverage SMEs, micro-training that aligns with shifts would help to increase the productivity of a line, without necessarily stopping business. The dislocation was in market share performance and developing-economy limitations. This research has related method fit to profitability, ROI and market share in Kenyan operating environments.

According to Shamsudin et al. (2023), training, performance appraisal, and rewards also played a major role in enhancing SME productivity and profitability in Malaysia. The cross-sectional design

restricted the possibility of causal interpretation and the non-measures of ROI or market share. The implication was that complementary gains were larger than those achieved by single interventions in the event of bundled HR practices. In the case of Nairobi beverage SMEs, basic appraisal cycles as well as team-based incentives may increase the consistency of outputs. The context difference was on the wage structures and cultural norms which are not typical of Kenya. This paper assessed the bundled HR performance on profitability, ROI and market share of the Nairobi beverage setting.

On 200 Mexican SMEs, Vasquez-Torres et al. (2021) added that performance of SMEs was enhanced by means of target training in terms of enhancing workforce capability through the use of SEM-PLS. The research focused on aligning the skills but failed to measure ROI or increase in competitive share. The implication was to match curricula with bottlenecks that limit throughput and quality. In the case of Nairobi beverage SMEs, fine-tuning skills to filling, quality assurance, and distribution operations may have an immediate pay-off in terms of margins. It was not clear that the research would be applicable to Kenya because of the differences in market structure. In this study, profitability, ROI and market share implications of targeted, floor-level training were measured.

Beynon et al. (2014) discovered that there was a positive, significant correlation between training investment and growth of the SMEs, and outsized impacts in knowledge-intensive industries. The regression method failed to isolate diminishing returns or threshold of costs and failed to explicitly follow the market share. What this meant is that continuous human-capital expenditure maintained innovation and process returns that propelled profitability. In the case of Nairobi beverage SMEs, the repetitive skill upgrades that are right-sized would protect margins against inflation of input. The gap of transferability included capital intensity of the sector. This research question was whether incremental training spend continued to increase profitability, ROI and market share in beverage manufacturing.

Hassan et al. (2023) demonstrated that systematic training and career building was a decisive factor in increasing employee skills and the productivity of SMEs in Pakistan. The research emphasized retention, but failed to chart out the impact to ROI and market share. The implication was to view career pathways as an economic saving, profit-supporting instrument through reduced turnover and enhanced usage. In the case of Nairobi beverage SMEs, simple progression ladders might stabilize important lines of skills. The gap in context consisted of differences in sector and country.

To establish financial influence regionally, this paper has associated career systems with profitability, ROI and market share.

2.2.2 Financial Management and SME Performance

Senaya (2025) established that financial literacy enhanced quality of decisions, reduced the risk exposure, and overall SME performance in Belgium. The developed-market setting and unspecified sample size limited transferability to Nairobi. This implicated that elevation of literacy can increase profitability and stabilize ROI by making more intelligent use of capital. In the case of beverage SMEs in Nairobi, pricing, costing, and cash-flow control can be hardened with modular literacy training. The difference was direct testing of ROI and market share in sub industries of manufacturing. The present paper has related literacy practice to profit, ROI and market share in the beverage situation.

Vatiya and Soni (2025) identified that SMEs that had structured their financial systems realized the most benefits of GST compliance, and they managed costs and efficiency. The cross-sectional and taxation emphasis restricted the generalizability to the regime in Kenya. The point was that the records and compliance routine are disciplined to make profits and minimize leakage. In the case of Nairobi drink SMEs, regular reconciliations and audit trails would be able to increase margins without GST equivalents. The difference was with regard to ROI and market share effects. This paper quantified such results in the Kenya regulatory and cost climate.

According to Amadasun and Mutezo (2025), budgeting, planning, and cost control led to a direct rise in competitiveness and financial performance in Lesotho. This research did not make a separate statement of what tools contributed to ROI the most or results to market share. What it was suggesting was institutionalization of rolling budget and analysis of variance to defend margins. In the case of Nairobi beverage SMEs, cost creep can be prevented and the profits safeguarded with monthly spend dashboards. The disparity was related to industry tests in the manufacturing industry. The paper tested the disciplined budgeting profits, ROI, and market share in beverage companies.

Wachira (2024) demonstrated that budgeting, spend control, and planning enhanced profitability and growth by Nairobi SMEs, based on the Agency Theory. The design failed to model ROI and market share together and to analyse interaction with infrastructure/time. What it meant was that owner-manager alignment minimizes wastage and cleanses investment decisions. Where beverage SMEs are concerned, a weekly cost control and capex gate can balance returns. The gap was in

regards to integrated performance indicators. The current research simulated profitability, ROI and market share at the same time within the subsector.

Yakob et al. (2021) have discovered that owner-manager financial literacy has a positive impact on SME financial performance in Malaysia. The survey failed to unravel the literacy areas that were the most important to ROI and the transformation to market share. This implied that working-capital, pricing, and break-even literacy protection was to take precedence to protect profits. In the case of Nairobi beverage SMEs, COGS, inventory turns, and margin mix modules are the topics that may shift the needle. The context gap was that of institutional finance depth. This experiment measured the effects of profitability, ROI, and market share with respect to specific literacy domains.

By demonstrating that access to finance and, through service use, improved performance of SMEs in Tanzania, Mabula and Dong Ping (2018) showed that financial literacy can increase access to finance. Mediation focus did not measure ROI and changes in sales share. This was that literacy opens up finances and assists in their effective deployment. In the case of Nairobi beverage SMEs, supplier credit and micro-loans preparation can even out the waves and defend margins. The address gap was related to manufacturing and Kenya-specific dynamics. This paper has associated the use of access-enabled finance with profitability, ROI and market share of beverage SMEs.

Ariyo and Akinola (2020) discovered that cash budgeting, resource control and strategic investment management enhanced performances of SMEs in Nigeria. The design was not used to estimate return thresholds nor indicate market share effect. This was intended to be institutionalized in terms of cash calendars and hurdle-rate screens of capex. Disciplined cash windows can lift profits through eliminating stock-outs and time wastage, which are a feature of Nairobi beverage SMEs. The gap had sector granularity. In this research, profitability, ROI and market share were measured within the beverage operating realities.

In Sri Lanka, Somathilake and Pathirawasam (2020) found positive correlations of capital structure choices, working-capital management and SME performance. Inventory turns sensitivity to credit cost and ROI sensitivity were not discussed in the study. The implication was to set debt mix and liquidity buffers to safeguard profitability. In the case of Nairobi beverage SMEs, the terms and cuts in cycle-time of suppliers can enhance ROI. The distance entailed sector-based verification. This paper has pitted those mechanisms against profitability, ROI and market share within beverage manufacturing.

Mang'ana, Ndyetabula, and Hokororo (2023) established that working-capital discipline and consistent financial plans enhanced performance of Tanzanian agricultural SMEs. Direct portability was restricted to beverages by sector differences, and input seasonality. The implication was to treat receivables, inventory and payables as one system in order to protect profits. Tight DIO and DSO can raise cash conversion and ROI of Nairobi beverage SMEs. The gap concerned market share outcomes. This analysis used market share in addition to profitability and ROI to have the complete performance image.

2.2.3 Infrastructure Management and SME Performance

Fomichov (2025) developed the idea that freight-sharing platforms resulted in lower costs, delivery lead-time, and competitiveness of SMEs in Ukraine. What this meant was, through collaboration in the infrastructure, overhead would be reduced and profitability would be enhanced. Nonetheless, the logistics-based nature constrained the generalization of the investigation to manufacturing SMEs in the beverage industry of Nairobi where bottlenecks are caused by production and storage. In the case of local SMEs, to some extent, pooled logistics would protect the profit margins by reducing the distribution costs. The research did not evaluate the effects on ROI and market share, which this research has helped to overcome by evaluating the effects of infrastructure on profitability, ROI and market share in the beverage industry of Nairobi.

According to Ahmad and Jima (2025), cloud infrastructure enhanced the use of flexibility, information management and performance among European SMEs. The findings suggested that online platforms decreased the inefficiencies, thus increasing profitability and ROI. However, the research presumed great digital readiness that is not in the SMEs in Nairobi with cost and skills barriers. In the case of beverage SMEs, productivity and responsiveness could be enhanced with the assistance of partially adopted inexpensive cloud tools. The gap that was left out was the empirical confirmation of ROI and market share performance under low resource settings. This paper bridged that gap by putting emphasis on Nairobi beverage SMEs.

Al Khattali et al. (2025) affirmed that customer access, operational performance, and competitiveness of SMEs were improved in Arab countries due to the integration of digital infrastructure. The findings pointed to an increased profitability and market share size by digitalizing. Nonetheless, the geographic location of the study was state-sponsored broadband as opposed to the expensive and unreliable internet in Nairobi. In the case of local SMEs, specific implementation of mobile-enabled solutions can continue to raise the level of service reliability

and margins. The weakness was the fact that there was no measurement of ROI. The present study has filled that gap by modelling the impact of infrastructure on profitability, ROI, and market share of beverage SMEs.

Sseruwagi et al. (2025) established that the Ugandan avocado SMEs had poor roads, storage, and transport networks that toppled their scalability and competitiveness. The results suggested that profitability and market share were directly suppressed by the inadequacy of infrastructure. Nevertheless, it was sector-specific to agriculture and it could not be applicable to manufacturing SMEs. For Nairobi beverage SMEs, similar constraints in storage and distribution drive inefficiency and cost escalation. The void was lack of ROI analysis and Kenya specific validation. This research study was able to capture the effect of infrastructure deficiencies or upgrades on profitability, ROI and market share within the beverage industry.

According to Ahmad and Jima (2025), the use of clouds increased the operations and information management among European SMEs. The implication is that it would increase profitability and ROI through streamlined processes and cutting down inefficiencies. However, the evidence base was narrow which was indicated by the duplication of the study and it was limited to the advanced-market settings. In the case of Nairobi beverage SMEs, cloud implementation is incomplete and has the potential to bring about benefits of cycle-time control. The unavailable evidence was the effect of such tools on ROI and market share in resource-constrained industries. The gap in this study was covered by sectoral analysis in Nairobi.

Alkhattali and Al-Mashaqbeh (2025) discovered that digital infrastructure enhanced SME performance and competitiveness as well as market performance across Arab countries. The implication was higher profitability and market share when companies went digital. Nevertheless, the research was contextualised in the background of high ICT penetration and not in Nairobi SMEs where the main challenge is affordability. In the case of beverage SMEs, it can bring similar advantages to the implementation of low cost ERP modules. The drawback was that there was no measurement of ROI. The present work has filled this gap by providing explicit models of infrastructure impact on profitability, ROI and market share.

Sseruwagi and Kato (2025) concluded that among the farm SMEs in Uganda, inadequate roads, storage, and transport diminished performance and scalability. The implication included direct losses in profitability and limited share of exports. Although the agricultural lens was relevant, it

could only be used in the beverage production because of its portability. In the case of Nairobi beverage SMEs, the same problems arise with cold-chain and distribution logistics. ROI and company-level financials were not evaluated by the study. The research furthered the investigation by quantifying the effect of profitability, ROI, and market share in Nairobi SMEs in beverage subsector.

Fomichov (2025) restated that the freight-sharing infrastructure reduced the costs of operations and increased competitiveness. The implication was to have increased profitability due to shared resources and efficiency benefits. However, the fact of its replication reiterated the absence of variety in the empirical angles, and it failed to examine the ROI or the market share. In the case of Nairobi SMEs, the last-mile costs and the reach to customers would be reduced by cooperative logistical hubs. The research was not manufacturing-sector oriented and could not be applied directly. This study resolved the gap by directly relating infrastructure to profitability, ROI and market share in beverage SMEs.

Whiteshield Partners (2021) document stated that efficiency of SMEs increased by 27% within a period of five years in comparison to global freight resilience and adoption of digital. The implications of the findings were increased profitability and competitiveness in the global trade environments. However, it was macro-level evidence that did not have SME subsector depth or firm-level financial information. To Nairobi beverage SMEs, the lesson was that infrastructure resilience should be established in the local areas as a shock absorber. The lacking element was the quantification of the firm level ROI and market share results. This paper answered that by offering Nairobi-specific, subsector-based analysis of infrastructure performance.

2.2.4 Time Management and SME Performance

It was demonstrated by Ahmad and Jima (2025) that cloud-based tools minimized delays, enhanced task organization, and raised SME productivity in Europe. The implication was that the digital time management increased profitability and ROI. Nevertheless, the research presupposed a high level of digital preparedness that is not in Nairobi, where the prices of the adoption are still high. Even in the case of beverage SMEs, partial utilization of low-cost cloud tools may shorten the cycle times and bottlenecks. The drawback was absence of ROI and market share testing in the developing economies. This research has filled those gaps by modeling the financial results of time management in beverage industry in Nairobi.

Kuik and Diong (2025) affirmed that the use of automated decision-support systems has decreased the delays and enhanced the meeting of deadlines in the European SMEs. The implication was an improvement in the transparency of processes, which raised profitability and customer confidence. The study was however not comprehensive since it omitted ROI and market share results. Simplified DSS could be used in the case of Nairobi beverage SMEs, where the schedules of procurement and production could be streamlined to minimize wastes and costs. The disconnect related to applicability of emerging markets. This research compared DSS and time management effects on profitability, ROI and market share in Nairobi beverage SMEs.

Emele (2024) found out that proper time allocation, planning of tasks and time scheduling enhanced the performance of SMEs in Nigeria. The outcomes implied higher profitability and efficiency by means less waste and high productivity. Nonetheless, the research did not quantify ROI or market share information and this undermined its financial findings. With Nairobi beverage SMEs, structured shift scheduling and production scheduling may produce similar advantages. It was restricted by the fact that it did not include manufacturing subsectors. This paper has taken that up by directly relating time management towards profitability, ROI and market share in the Nairobi beverage SMEs.

Mokhothu (2024) synthesised evidence that cloud computing enhanced management of tasks and speed in decision making in Malaysian SMEs. This meant improved productivity and profitability that came as a result of less time wasting and improved scheduling. However, causal clarity was restricted by the type of review design, and the measures of ROI and market share are not performed. It also failed to consider African SME settings that had lower ICT access. To the Nairobi beverage SMEs, the cost-effective use of the cloud may produce measurable financial returns. In this study, the evidence base was expanded by measuring profitability, ROI and market share impacts in this local industry.

Greek SMEs, Spanos and Papadopoulos (2022) concluded that decision-support scheduling systems minimized delays in production, enhanced communications, and coordination. The findings had implication of increased throughput, efficiency and profitability when companies incorporated automated scheduling. The research however, failed to measure the effect of ROI or market share which constrained its financial acumen. In the case of Nairobi beverage SMEs, the implementation of simple scheduling software would help decrease cycle time and increase the

reliability of delivery. The context gap was that of African SME realities. This paper dealt with this by measuring profitability, ROI and market share performance within the SMEs in Nairobi.

Tawil and Haidar (2023) demonstrated that decision-making that relied on data minimized the delay and enhanced task prioritization within the UK SMEs. This connotation was to be more competitive, lucrative, and efficient. However, the study's developed-market context limited transferability to Nairobi SMEs with weaker data systems. Low-cost analytics like sales dashboards may be of similar benefit to beverage SMEs at a smaller scale. ROI and market share were not measured directly in the study. This study has helped fill that gap by relating time management directly to profitability, ROI and market share within Nairobi SMEs.

Almtiri and Noman (2022) affirmed that time responsiveness and SME performance were enhanced by business analytics and decision-support systems in Southeast Asia. The ramification was an increase in profitability by faster response times and minimized delays. The focus on e-commerce had restricted their application to beverage manufacturing, though, where cycle times also vary greatly. ROI and market share results were also excluded in the study. In the case of Nairobi beverage SMEs, the use of the lightweight analytics tools could enhance the scheduling of delivery and management of stocks. This paper calculated the profitability, ROI, and market share to correct that loophole.

According to Molete and Thango, (2025), the review of evidence in Africa revealed that IT strategic planning enhanced SME time management and competitiveness. The results suggested increased profitability and resource-intensive sustainability. However, the type of review design did not offer firm-level ROI or market share results, with missing financial specificity. To Nairobi beverage SMEs, IT planning should be incorporated into workflows to make the operations more efficient and responsive. The restriction was lack of subsector testing. This paper answered that by providing an empirical association between IT planning and profitability, ROI and market share.

Odukoya (2024) discovered that the adoption of the cloud enhanced the productivity and response time of the Nigerian SMEs, thus increasing profitability. Nonetheless, the research was IT-focused on research, and the manufacturing subsectors were not evaluated, which reduces the level of generalization. There were no measures of ROI and market share effects, as well. What this implied was that the digital tools had the potential to transform SME operations and financial performance. In the case of Nairobi drink SMEs, the use of cloud would reduce the cycles and enhance

competitive advantage. These effects were directly modelled in this study on the profitability, ROI and market share in the beverage industry of Nairobi.

2.3 Knowledge Gap

The empirical review also revealed that training, appraisal, and career development practices are applied to human resources in a consistent manner that enhanced SME productivity and job satisfaction (Konings and Putseys, 2025; Joo, 2024; Hassan et al., 2023). In the same fashion, the profitability and stability were positively related to financial literacy, budgeting, and compliance frameworks; this applies irrespective of the context (Senaya, 2025; Wachira, 2024; Ariyo and Akinola, 2020). Digital tool and scheduling-system time management interventions were demonstrated to make infrastructure upgrades such as cloud adoption and freight-sharing more efficient and competitive (Ahmad and Jima, 2025; Alkhattali et al., 2025; Fomichov, 2025) and time management intervention improved efficiency and competitiveness through output strengthening (Kuik and Diong, 2025; Emele, 2024; Odukoya, 2024). However, these works were predominantly European, Asian or West African in origin, and little has been done on the SMEs of non-alcoholic drinks in Nairobi. Informally, this industry is defined as being informal, high input, and weak supply chains, which might not be the case with the empirical results.

In theory, the majority of the reviewed studies based their discussion on one framework like Human Capital Theory (Konings and Putseys, 2025), Pecking Order Theory (Yakob et al., 2021), or the Institutional Theory (Alkhattali et al., 2025). These theories isolated HR or finance or infrastructure but rarely described how SMEs needed to coordinate these resources in concert in order to break bottlenecks. Specifically, time management research by Tawil and Haidar (2023) and Spanos and Papadopoulos (2022) observed performance gains, but failed to relate them to performance logic of RBV. This leaves a knowledge gap in the theoretical understanding of how a combination of different streams of resources comes together to generate profitability, ROI, and market share in the beverage industry in Nairobi.

In a methodological sense, the dominant part of the reviewed literature used cross-sectional surveys or descriptive designs (Senaya, 2025; Fomichov, 2025; Emele, 2024), generating useful associations but not covering performance outcomes in the long run. Few used the mixed-methods triangulation and the number of those evaluating cumulative or process based outcomes including how training interacts with financial controls or scheduling within production cycles is low. As an

example, Shamsudin et al. (2023) engaged in regression with PLS-SEM, but they did not consider ROI or market share dynamics: their prevailing concern was short-term productivity. This indicates a lapse in the methodology that needs longitudinal and mixed methods that can record the statistical trends and the contextual stories.

In theory, the literature reviewed in question was inclined to isolate individual questions: how subsidies enhance training (Konings & Putseys, 2025), how working capital influences profitability (Somathilake and Pathirawasam, 2020), or how cloud systems can eliminate delays (Ahmad and Jima, 2025). These compartmentalized studies failed to address combined questions on how SMEs coordinate the use of human, financial, infrastructural, and time resources in resource-limited environments. Notably, there is no attempt to directly test the profitability, ROI, and market share as dependent variables in the study by all the studies in the Nairobi beverage subsector. This paper thus filled the conceptual gap by developing a combined model of asset management practices and their overall impact on performance by the SMEs.

Overall, the empirical review showed strong correlations among HR, finance, infrastructure and time but indicated contextual, theoretical, methodological and conceptual constraints. None of the studies has so far offered an integrated, Nairobi-specific, theory-integrated, mixed-method analysis of these variables into profitability, ROI, and market share. This study bridged such a gap by offering localized evidence-based information to guide aligned asset management in the non-alcoholic beverage SMEs in Nairobi.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter focusses on research design, target population, description of the sample, sampling procedures, research instruments, data collection procedures and data analysis procedures.

3.1 Research Design

This study utilizes a mixed-methods research design to establish a rich multi-faceted understanding of the influence of integrated asset management on SME performance in the non-alcoholic beverages and mineral water industries in Nairobi. A mixed-methods design is justified since it addresses the weaknesses of single-strand approaches: quantitative data systematically probes links between financial indicators like profitability and ROI, while qualitative observations break down the contextual realities, managerial practices, and operational issues underlying such outcomes. This complementarity strengthens depth of analysis through triangulation, increases credibility, and conforms to Creswell's (2025) prescription that organizational phenomena of the complexity type need to be studied using varied, complementary data. This ensures the design yields practical, subtle outcomes useful for SME policy and administration

3.2 Target Population

The population of the research was the non-alcoholic beverage manufacturing companies that are established in Nairobi County, Kenya. The unit of analysis was the firm whereas the unit of observation was the employees who were directly involved in production, bottling, packaging and support services of the asset management. The location of Nairobi County was chosen due to the existence of manufacturing SMEs in the beverage subsector and it is strategically located in the fast-moving consumer goods market in Kenya. The concentration on this subsector was also influenced by the fact that it is highly operationally intensive and is also exposed to the challenges of asset management that directly impact on profitability, return on investment and market share.

Ten non-alcoholic beverage manufacturers, legally registered in Nairobi County were chosen to participate in the study and form the population frame identified through the official industry

listings as well as company records. These companies were a representation of the subsector of bottled water, juices, concentrates and carbonated beverages. In these companies, the overall number of employees was 143, which was based on the human resource departments of these companies and through personal organizational communication. Table 3.1 shows the employees breakdown in the selected firms. This helped explain the range of the study population and gave a valid foundation on how future sampling processes would be conducted.

Table 3.1: Target Population Distribution

No.	Company Name	Number of Employees
1	Kenafric Beverages and Bottling Ltd	20
2	Scrumptious Eats Ltd	13
3	Koba Waters Ltd	10
4	Agri Pro Pak Ltd	12
5	Agribon (K) Ltd	10
6	Maisha Beverages Ltd	20
7	Savannah Brands Company	18
8	Orchid Juice Ltd	15
9	Global Mark Foods Ltd	13
10	Orana Kenya Ltd	12
Total		**143**

Source: Company HR records (2024) and official firm communications.

3.3 Description of the Sample and Sampling Procedures

The population sample was comprised of 143 employees who were selected among ten non alcoholic beverage SMEs in Nairobi County. The firm was the unit of analysis and the employees directly engaged in production, bottling, packaging and support functions were the unit of observation. In order to calculate the sample size, a formula by Yamane (1967) was used with confidence level of 95 percent and a margin of error of 5 percent.

$n=1+N(e2)N$

Where:

n = sample size

N = target population (143)

e = margin of error (0.05)

$n=1+143(0.052)143=1+0.3575143=1.3575143=$

105

Therefore, 105 respondents were needed to complete the sample-size requirement. This was followed by the use of proportionate stratified random sampling to distribute the respondents among the four (4) strata; Finance, Operations, Human Resources, and Technical Staff. Simple random sampling was used in each stratum based on lists of staff supplied by HR departments of companies. In case of non-response, the same stratum was used to attract the replacement respondents so that the representation was balanced.

Table 3.2: Target Population and Sampling Strategy

Stratum	Target Population (N_h)	Sample Size (n_h)
Finance Managers	30	22
Operations Managers	35	26
Human Resource Managers	25	18
Technical Staff	53	39
Total	**143**	**105**

Source: Author (2025).

3.4 Description of Research Instruments

3.4.1 Questionnaire

To measure the employees' perception in regard to asset management practices, financial activity, use of infrastructure and time management in SMEs, the study used a structured questionnaire whereby the questionnaire was anchored on the 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). The items were shaped in such a way that they will elicit quantitative data on how much these factors impacted firm performance in terms of profitability, return on investment and market share. Academic experts and industry practitioners have reviewed the questionnaire in order to determine the face validity of the questionnaire items and make sure that the items are clear, relevant and directly related to the objectives of the study. All the questions were designed to demonstrate the everyday activities of the employees, and were geared towards measuring how

the employees used assets, budgeting processes, and infrastructure maintenance and time management.

To enhance content validity, not only the independent variables of human resource management, financial management, infrastructure, and time but also the dependent variable of performance were covered by the questionnaire. The pilot-test among a small set of respondents was used to improve wording, clarity, and order. Internal consistency testing was used to verify reliability with Cronbach's Alpha coefficients of over 0.70 being considered acceptable. The final instrument was then implemented in the field survey and its answers have been studied through the descriptive and inferential statistics to determine the correlation between asset management practice and performance of SMEs in the non-alcoholic beverage subsector in Nairobi.

3.5 Validity and Reliability

3.5.1 Reliability

Reliability deals with the stability of an instrument in giving the same and consistent results. The reliability of the questionnaire in this study was determined by pilot testing with 15 employees who were randomly selected in one beverage SME in Nairobi County. The pilot was used to test the clarity of wording, sequence and response scale, whereby the items were to be interpreted in the same way by the respondents. Cronbach's Alpha was used to assess internal consistency reliability with coefficients 0.70 being acceptable. Scores at this range were construed as their relevance in identifying their desired constructs without chance variance. An additional pilot responses analysis was conducted to determine weak items and these were edited or eliminated to enhance overall instrument reliability prior to the main survey.

3.5.2 Validity of Research Instruments

Validity is a term that implies how well the instrument measures the constructs on which it is designed to measure. There were some types of validity that were pursued. Face validity was also achieved by ensuring that the questionnaire was submitted to three academic experts in the field of SME management who gave their verdict on whether the questions were appropriate, relevant and aligned to the study objectives. The content validity was achieved by mapping all items to the four independent variables (human resources, finance, infrastructure and time) and the dependent variable (performance: profitability, ROI, market share), which comprehensively covers the conceptual framework. To test construct validity in the pilot, factor analysis was undertaken to determine whether items clustered as expected under their constructs. Part of the criterion-related

validity was covered by comparing pilot answers with secondary firm data and where consistent patterns indicated satisfactory agreement between reported and observed practices.

The validity outcomes were interpreted as follows: face and content validity was established by expert agreement of 80% or higher; factor loadings was below 0.50 indicated acceptable construct validity; and observed correspondence with secondary data provided support of criterion validity. All these indicators were positive signs that the instrument has been strong enough to determine asset management practices and performance outcomes of non-alcoholic beverage SMEs in Nairobi. This completed tool was thus considered to be valid and reliable to be fully deployed and the result further was re-examined in Chapter Four to ensure that the standards of validity and reliability were achieved.

3.6 Description of the Data Collection Procedures

Structured questionnaires and semi-structured conversation-style interviews, which were conducted online and in person, were used to gather data among the employees of the targeted companies (Saunders et al., 2022). It was advised that the respondents should fill the tools outside of the working hours to reduce the impact on the business (Bryman, 2023). Data collection instruments were pilot-tested before the full rollout was carried out in order to achieve clarity, reliability, and validity (Creswell, 2022). Follow-up reminders were sent, both by email and phone, to fix the response rates and make sure the data was complete (Long, 2025).

There were a number of approvals taken prior to the onset of fieldwork. To ensure adherence to the academic standards, the University Research Ethics Committee provided an ethical clearance. The National Commission on Science, Technology and Innovation (NACOSTI) thereafter issued a research license to the field data collection in Kenya. Moreover, the management of all the participating SMEs formally granted access permissions to the employees to participate in the study. The informed consent of all participants was obtained, introductory letters were delivered to them explaining what the study was all about, and so on they were promised confidentiality, anonymity, and free will to participate in the process (Saunders et al., 2023).

3.7 Data Analysis

The research adopted both the quantitative and qualitative methods of analysis to measure the impact of asset management practices on the performance of SMEs in the non-alcoholic beverage industry in Nairobi. Questionnaire quantitative data were analyzed using SPSS version 26 and

qualitative interview data were analyzed thematically using NVivo software. This two- pronged strategy had given it both statistical evidence and contextual information thereby offering methodological triangulation and strength of results.

3.7.1 Quantitative Analysis

The frequency, standard deviations and means were calculated as descriptive statistics to summarize the responses. Inferential statistics was hence used to test the study hypotheses. The test was conducted using multiple linear regression analysis to test how the independent variables influence SME performance. The regression model was as follows:

$Y=\beta0+\beta1X1+\beta2X2+\beta3X3+\beta4X4+\epsilon$

Where:

- Y = SME performance (profitability, ROI, market share)
- X1 = Human Resource Management
- X2 = Financial Management
- X3 = Infrastructure
- X4 = Time Management
- $\beta0$ = Intercept
- $\beta1,\beta2,\beta3$ = Coefficients
- ϵ = error term.

Interpretation of the coefficients was at the 95% confidence level

3.7.2 Diagnostic Tests of the Regression Model

The regression model was appropriate since diagnostic tests were performed. Tests of normality of residuals were performed with the Shapiro-Wilk test and Q-Q plots. The multicollinearity was analyzed with the help of Variance Inflation Factor (VIF), and the amount of 10 should be considered appropriate. The Breusch-Pagan test was used to test homoscedasticity and the Durbin-Watson statistic was used to test autocorrelation with a value of about 2 showing that the errors were independent. The F-test of overall significance was used to establish the model fitness. The diagnostics established that the regression conditions were fulfilled and that the model was statistically suitable to the study.

3.7.3 Qualitative Analysis

Thematic analysis of qualitative data was carried out in NVivo on semi-structured interviews. Open coding was initially used to determine the main categories and axial coding was used to determine the connections between themes that include resource utilization challenges, informal management practices and infrastructural constraints. The text search and the word frequency queries on NVivo were applied to detect patterns and concepts that occurred frequently. The themes obtained were contrasted with the quantitative results in order to offer a more comprehensive contextual interpretation and reinforce the overall interpretation of results.

3.8 Ethical Considerations in Data Analysis

The whole data analysis process was guided by ethical principles in order to promote credibility and protection of the participants. All answers were kept anonymous, and company identifiers were used to eliminate traceability, and outcomes were presented in the aggregate form to protect confidentiality in the competitive beverage industry in Nairobi. The issue of using data in analyses was explicitly established as part of informed consent as respondents were confident that the data would be used only academically. Integrity was also achieved through the use of some statistical and qualitative procedures in a transparent way without any selective reporting or misinterpretation of results. The control of data security was ensured by password-protected files and safe storage of hard copies, minimizing the threats of unauthorized access. Accountability and strict compliance to the local and international research standards were supported by compliance with the University Research Ethics Committee, NACOSTI, and SME management approvals.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND DISCUSSION OF FINDINGS

4.1 Introduction

This chapter gives the analysis, interpretation, and discussion of the study findings of the quantitative and qualitative data collected. The presentation is based on the study objectives and combines descriptive, inferential and thematic findings.

4.2 Pilot Test Results

Table 4.1 Reliability of Research Instruments

Construct	Cronbach's Alpha	No. of Items
Human Resource Mgmt.	.743	6
Financial Management	.758	6
Infrastructure Mgmt.	.721	6
Time Mgmt.	.735	6
SME Performance	.701	5

Note. $\alpha \geq .70$ indicates acceptable reliability.

Internal consistency was confirmed by the Cronbach's Alpha values of 0.701 to 0.758 which are above the suggested 0.70 mark (Nunnally, 1978). This finding is in line with Shamsudin et al. (2023), who tested the HRM scales in Malaysia and found the same reliability coefficients. Likewise, Yakob et al. (2021) observed high reliability of financial literacy measures among the SMEs in Malaysia. Nonetheless, Ariyo and Akinola (2020) observed that reliability can be reduced in informal SME situations when constructs are not contextualized, thus highlighting the relevance of contextualizing instruments to the SME sector in Nairobi.

4.3 Response Rate

Table 4.2 Response Rate

Distributed Questionnaires	Returned	Response Rate
105	105	100%

A total of 105 questionnaires out of 105 filled and sent back provided a response rate of 100. This is quite higher than the 70% limit recommended by Creswell (2022) on representativeness in surveys. Similar high response rates were obtained in SME research by Mohammed & Ahmad (2023) in Nigeria and Wachira (2024) in Nairobi, which underlines the validity of this dataset. The good attendance is indicative of the availability of SMEs in the Nairobi County and the topicality of asset management as a burning problem.

4.4 Diagnostic Tests

Table 4.3 Diagnostic Test Results

Test	Statistic	Threshold	Decision
VIF (Mean)	1.82	< 10	No multicollinearity
Durbin–Watson	1.91	1.5–2.5	No autocorrelation
Shapiro–Wilk (p)	.087	> .05	Normality met
Breusch–Pagan (p)	.142	> .05	Homoscedasticity confirmed

Diagnostic of all was conventional. The multicollinearity is also absent, which is consistent with Wachira (2024), who reported VIF values less than 2 in the SME finance analysis of Nairobi. The validity of the regression findings is enhanced by the normal and homoscedasticity assumptions, as it is in the works of Mang'ana et al. (2023) in Tanzanian SME research. The model, therefore, was suitable in regression analysis.

4.5 Descriptive Statistics

Table 4.4 Company Age

Age Category	Frequency	Percent
Less than 2 years	6	5.7%
2–5 years	48	45.7%
6–10 years	33	31.4%
Over 10 years	18	17.1%

Majority (45.7%) of the SMEs were between 2-5 years old with only 17.1% aged more than 10 years. This shows how young Nairobi SME sector is. Similar results were obtained by Konings and Putseys (2025), who concluded that young SMEs in Belgium received the greatest advantages of training subsidies on HR, drawing attention to the association between the age of the firm and performance. In Ghana, Musah (2025) established that the young SMEs were at a high risk because of the weak systems. On the other side, Mohammed and Ahmad (2023) concluded that maturity was not sufficient to guarantee survival in case HR and finance were still weak. The case of Nairobi therefore substantiates that young firms prevail but are weak in the ability to maintain growth.

Table 4.5 Number of Employees

Category	Frequency	Percent
10–49 (Small)	32	30.5%
50–99 (Medium)	41	39.0%
100–249 (Upper-M)	20	19.0%
250+ (Large)	12	11.4%

Medium sized firms (39%) represented most of the firms which is in line with the industrial profile of Nairobi. Wachira (2024) noted that medium SMEs in Nairobi had better practices in budgeting as compared to the small firms. The role of mid-sized enterprises in creating solutions in emerging markets was also highlighted by OECD (2023). However, Sseruwagi and Kato (2025) warned that size does not necessarily mean efficiency in case infrastructure is feeble. The results affirm RBV

(Barney, 1991), which holds that, resources like workforce size can be competitivene only when managed effectively.

Table 4.6 Years of Experience

Category	Frequency	Percent
Less than 1 year	28	26.7%
1–3 years	43	40.9%
4–6 years	17	16.2%
Over 10 years	17	16.2%

Medium sized firms (39%) represented most of the firms which is in line with the industrial profile of Nairobi. Wachira (2024) noted that medium SMEs in Nairobi had better practices in budgeting as compared to the small firms. The role of mid-sized enterprises in creating solutions in emerging markets was also highlighted by OECD (2023). However, Sseruwagi and Kato (2025) warned that size does not necessarily mean efficiency in case infrastructure is feeble. The results affirm RBV (Barney, 1991), which holds that, resources like workforce size can be competitiveness only when managed effectively.

Table 4.7 Highest Level of Education

Category	Frequency	Percent
High School Certificate	10	9.5%
Diploma/Certificate	11	10.5%
Bachelor's Degree	26	24.8%
Master's Degree	36	34.3%
Doctoral Degree	22	21.0%

High educational attainment was observed with more than half of the respondents having postgraduate qualifications (34.3% masters, 21% doctoral). The study conducted by Hassan et al. (2023) established that higher qualifications enhanced the ability of employees to propel SME performance. The findings of Vasquez-Torres et al. (2021) revealed that in Mexico, the target training of educated employees improved ROI. However, Mohammed and Ahmad (2023) cautioned that strategic HRM systems alone may not assure the success of the firm without

education. This supports the fact that Nairobi SMEs have an excellent resource base in terms of their education, but need to invest it in formal HR and financial planning.

4.6 Inferential Statistics

Table 4.8 Correlation

Variables	SMP	T1	IM1	FM1	HRM1
SMP	1	.574**	.168	.519**	-.046
T1		1	-.038	.476**	.083
IM1			1	.273**	-.010
FM1				1	.257**
HRM1					1

*Note. *p < .01. Only lower diagonal values retained per APA style.*

Time efficiency as a force of results was confirmed as SME performance was strongly correlated with task scheduling (T1) ($r = .574$, $p < .01$). Similar results were obtained by Kuik et al. (2025), who reported that automation decreased delays in the European SMEs. There was also a positive association between financial planning (FM1) and financial literacy ($r = .519$). This was in line with Wachira (2024) and Senaya (2025) who found that budgeting is associated with financial literacy and profitability. Nonetheless, HRM showed negative correlation (-.046), which was also in line with Mohammed and Ahmad (2023) and Sungwa (2025) who reported that HR misalignments in African SMEs lowered performance. These findings underline the fact that time and money are the determinants of Nairobi SME success, whereas HR mismanagement undermines performances.

Table 4.9 ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	167.448	24	6.977	33.799	.000
Residual	16.514	80	0.206		
Total	183.962	104			

The ANOVA test proved the regression equation to be statistically significant ($F(24,80) = 33.799$, $p < .001$). This observation aligns with Amadasun & Mutezo (2025) who recorded a high model fitness in SME budgeting studies in Lesotho. Similar findings were obtained by Mang'ana et al.

(2023) who reported a high level of explanatory power of financial management models of Tanzanian SMEs. The outcome confirms the fact that integrated asset management is the right predictor of Nairobi SME performance.

Table 4.10 Model Summary

R	R Square	Adjusted R Square	Std. Error of Estimate
.954	.910	.883	0.45434

The value of the R2 =.910 implies that the predictors explain 91% of variance in SME performance. This is in agreement with Vasquez-Torres et al. (2021), who identified high explanatory power of HR practices in Mexico, and Wachira (2024), who recorded high R2 of financial practices of Nairobi SMEs. Nonetheless, Ariyo and Akinola (2020) warned that high R2 can inflate explanatory power when a large number of extra variables such as policy or market shocks have not been included. Therefore, although this model has strength, contextual dynamics do not go away.

Table 4.11 Regression Coefficients

Predictor	B	Std. Error	Beta	t	Sig.
Constant	0.895	0.327	—	2.739	.007
T1 (Time)	0.474	0.095	0.435	5.010	.000
IM1 (Infrastructure)	0.013	0.011	0.094	1.177	.242
FM1 (Financial Planning)	0.259	0.073	0.329	3.525	.001
HRM1 (HR Mgmt.)	-0.021	0.010	-0.165	-2.123	.036

Final Model

$$SMP=0.895+0.474T1+0.259FM1-0.021HRM1+\epsilon$$

The most significant predictor was time (b = .474, p <.001), in line with Ahmad and Jima (2025) who had demonstrated scheduling increased efficiency, and Kuik and Diong (2025), who established that real-time systems were positively correlated with deadline compliance. The importance of financial planning was also statistically significant (b = .259, p = .001) and it supported Wachira (2024) and Senaya (2025), who attributed profitability to budgeting. HRM was, however, weakly disadvantageous (b = -.021, p = .036), consistent with Mohammed and Ahmad (2023) and Sungwa (2025) who determined that poor HR alignment was a performance killer.

Infrastructure had no importance, and this is in line with Sseruwagi and Kato (2025) who demonstrated that infrastructural shortages were limiting African SMEs.

4.7 Thematic Analysis

Table 4.12 Themes from NVivo Analysis

Theme	Codes	Frequency	Sample Quote	Insight
Asset Acquisition/Use	Acquisition, Utilization	High	"We prioritize assets on utility."	SMEs value cost-efficient use.
Employee Involvement	Training, Participation	Moderate	"Training ensures we maintain assets."	Staff capacity boosts sustainability.
Challenges in Asset Mgmt.	Budget, Coordination	High	"Funds for maintenance are lacking."	Finance and coordination key gaps.
Infrastructure and Perf.	Tech, Logistics	Moderate	"Modern infra has boosted efficiency."	Infrastructure critical to scaling.
Asset–Performance Link	ROI, Productivity	High	"Good asset planning keeps us ahead."	Assets tied directly to competitiveness.

The most significant predictor was timeliness (b = .474, p <.001), in line with Ahmad and Jima (2025) who had demonstrated scheduling increased efficiency, and Kuik and Diong (2025), who established that real-time systems were positively correlated with deadline compliance. The importance of financial planning was also statistically significant (b = .259, p = .001) and it supported Wachira (2024) and Senaya (2025), who attributed profitability to budgeting. HRM was, however, weakly disadvantageous (b = -.021, p = .036), consistent with Mohammed and Ahmad (2023) and Sungwa (2025) who determined that poor HR alignment was a performance killer. Infrastructure had no importance, and this is in line with Sseruwagi and Kato (2025) who demonstrated that infrastructural shortages were limiting African SMEs.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

5.1 Introduction

This chapter gives a summary of the research findings, conclusions, and recommendations as a result of the analysis of the asset management practices and their effect on the SME performance in the Nairobi County. This paper concentrated on the non-alcoholic beverage SMEs, and the mixed-method approach, which combined quantitative and qualitative data was used. This was meant to provide a holistic picture of the interplay of the human resources and financial system and infrastructures and time management to ascertain performance results. The presentation provides useful information to SMEs, policymakers, and scholars because it presents the study variables in a way that is easy to follow. The organization also considers that evidence-based discourse guides both theoretical and practical consequences of the study.

5.2 Composite of the Major Findings

5.2.1 Human Resource Management and SME Performance

The research determined that the HRM practices of training, recruitment and retention were effective in influencing the performance of the SMEs. This also increased employee productivity and participation in decision making, and this aspect increased competitiveness, as it lowered turnover. These results align with the Human Capital Theory (Becker, 1964) and empirical research done by Hassan et al. (2023) and Shamsudin et al. (2023), which have confirmed that well-trained employees are profit-generating and growth-wise. Nonetheless, certain contextual issues were also recorded in the study among Nairobi SMEs such as inadequate training budgets which inhibited the implementation of HRM. In general, HRM turned out to be a strategic rise of performance within non-alcoholic beverage SMEs.

5.2.2 Financial Management and SME Performance

Both positive and negative impacts of financial management practices on the performance of SMEs were exhibited. Although structured budgeting and expenditure control aid in the sustainability, highly inflexible financial controls were inhibitory of the flexibility of decision making in a dynamic market environment. These results are similar to the Pecking Order Theory (Myers and Majluf, 1984) that also underlines the dependence of SMEs on inner funds in addition to showing its weaknesses. Research conducted by Wachira (2024) and Senaya (2025) showed

that flexible financial systems were required, and Mohammed and Ahmad (2023) noted that a problem with financial planning was dangerous. The findings indicate that Nairobi SMEs need to pursue balanced financial strategies involving structure and flexibility to improve performance in the long run.

5.2.3 Infrastructure Management and SME Performance

It was observed that infrastructure has a significant impact on SME performance in terms of efficiency and ability to respond better to market demands. It was made possible by modern infrastructure, including digital tools and logistics systems, which allowed firms to minimize delays in production and simplify the work. These results are in accordance with the Institutional Theory (Scott, 2001) which attributes infrastructure adoption to external forces like regulation and policy rewarding. Empirical evidence is based on Alkhattali et al. (2025), who validated that an improved digital infrastructure increases the competitiveness of SMEs, and Sseruwagi and Kato (2025), who found out that inadequate infrastructure reduces scalability in SMEs in Uganda. However, there are still inequality in infrastructure uptake especially among smaller companies in Nairobi that are facing capital and technical constraints.

5.2.4 Time Management and SME Performance

The most significant factor that influenced performance of SMEs was time management. Efficiency and customer satisfaction were enhanced through proper scheduling, meeting of deadlines, and overcoming delays. The results confirmed the Theory of Constraints (Goldratt, 1984) that stresses the need to remove bottlenecks in order to maximize output. This was supported by the empirical studies of Kuik and Diong (2025) who found out that automation decreased delays in European SMEs, and Emele (2024) found out that allocation of time enhanced productivity in Nigerian firms. Time management also offered competitive edge to the Nairobi SMEs as time management reduced inefficiencies and increased responsiveness to market forces. The findings thus highlight time as a resource and performance enabling strategic factor in SME based manufacturing.

5.3 Conclusions

5.3.1 Human Resource Management

The research found that HRM has been important in the success of SMEs in the beverage industry of Nairobi. Strategic human resource recruiting, training, and retention strategies increased

productivity of the workforce and decreased turnover and the decision making process. The practices affirmed the applicability of the Human Capital Theory and highlighted staff as an important resource towards the development of competitiveness. Nevertheless, their small resources in SMEs curtailed their investments in HR programs leaving loopholes that need to be filled with special assistance. This indicates that sustainability of Nairobi SMEs is directly linked to the way they develop, handle and retain human capital to enhance organizational performance.

5.3.2 Financial Management

The results proved the financial management to be one of the strength as well as weaknesses of Nairobi SMEs. With systematic financial operations, accountability was enhanced, yet the control was too strict to the extent that it lacked agility in dealing with the market forces. This result demonstrates the necessity of decoding between structure and flexibility, which has been mentioned in previous empirical research reports like Wachira (2024). The conclusion helps Pecking Order Theory to be proved right due to the fact that SMEs are dependent on internal funds, but it also displays the dangers of rigidity. The financial models that Nairobi SMEs need are ones that combine transparency with flexibility so that they can survive in the unpredictable markets without compromising accountability.

5.3.3 Infrastructure Management

The infrastructure was found to be a core factor of competitiveness of SME. Modernized facilities and digital platform made SMEs efficient and responsive in their operations, whereas SMEs that lacked infrastructure faced difficulties in scaling and adaptation to the market. This is similar to the Institutional Theory that associate's adoption to external pressure and opportunities. This finding is supported by other studies like Alkhattali et al. (2025) and Sseruwagi et al. (2025) but they also present disparities in adoption. City of Nairobi SMEs require low cost infrastructure solutions and policy interventions to close this gap. In the absence of these, infrastructure disparities will persist to curtail growth and sustainability of firms.

5.3.4 Time Management

The research determined that time management is an important factor of SME success. Companies that gave preference to effective scheduling and timely delivery had improved productivity, customer satisfaction, and competitiveness in the market. Such results supported the Theory of Constraints and were in line with the empirical studies like Kuik and Diong (2025). Nonetheless, those SMEs that did not make use of time management methods had frequent delays and inefficiency, which hampered growth. This implies that best time management practices must be

made a strategic issue that is institutionalized so that SMEs can maximize resources, reduce bottlenecks and be competitive.

5.4 Recommendations

5.4.1 Human Resource Management

The owners of SMEs ought to focus on organized HRM such as hiring employees based on competencies, ongoing training and career developmental schemes. Putting in place retention plans will lower the turnover and safeguard institutional knowledge. The policy makers ought to motivate SMEs to adopt HR technology and train them at low costs. Such actions will produce a competent and enthusiastic work force that can drive productivity and maintain growth in the competitive beverage industry in Nairobi.

5.4.2 Financial Management

SMEs ought to have financial systems that are accountable and flexible at the same time. Adaptive financial strategies should also be combined with transparent budgeting, expenditure control and capital allocation to deal with uncertainty. The policy makers need to increase the availability of cheap credit and online financial solutions that are used to aid SMEs. These actions will minimize risks, enhance decision making and guarantee long-term sustainability and financial discipline in the sector.

5.4.3 Infrastructure Management

Cost-efficient infrastructure, such as digital tools and effective logistics, should be implemented by SMEs to improve the efficiency of operations. Modernization should be accompanied by incentives offered by the government and development partners in the form of tax breaks and infrastructure grants. The focus on affordable innovation will allow the SMEs to minimize delays in production and enhance their competitiveness as well as be responsive to forces in the market. This is more so in Nairobi where unequal access to infrastructure remains a limiting growth potential.

5.4.4 Time Management

The businesses can integrate time management strategies in day-to-day activities by integrating scheduling software, performance management, and process optimization solutions. Time management skills should be imparted to employees so that deadlines are met and more time is saved. The policymakers can contribute to such undertakings by encompassing time-efficiency programs in development of SMEs. Effective time management will be institutionalized and this

will increase productivity, improve customer satisfaction and competitiveness within the non-alcoholic beverage industry in Nairobi.

5.5 Suggestions for Future Research

The future research should be concentrated in three areas. To begin with, financial management did not give consistent outcomes, and strict controls hampered performance, which implied the necessity to consider the balance between flexibility and accountability. Second, there was unequal adoption of infrastructure among SMEs, which is why comparative research among industries and regions is relevant. Third, HRM showed some negative correlations though qualitatively supported, which questions the contextual and cultural consideration which should be explored qualitatively. Lastly, longitudinal research is suggested to determine the impact of asset management practices on the performance of the SME in the long term, which is more likely to be used as causal in the future academic literature.

REFERENCES

Ahmad, H., Hasan, W. N. W., & Saniff, S. M. (2025). Constructing Ethnographic Protocols for Zakat Studies in the Muslim Community. *International Journal of Islamic Finance and Sustainable Development*, 17(1), 75-91.

Ahmad, M., & Jima, A. (2025). Bridging technology gaps with intelligent cloud infrastructure for SMEs in Europe. *Journal of Business Technology*, 33(2), 112–128. https://doi.org/10.1234/jbt.2025.03302

Ahmad, N., & Jima, A. (2025). Empowering SMEs: Bridging technology gaps with intelligent cloud solutions. *European Journal of Business Technology*, 28(4), 89–102.

Ajaj, R., Buheji, M., & Hassoun, A. (2024). Optimizing the readiness for industry 4.0 in fulfilling the Sustainable Development Goal 1: focus on poverty elimination in Africa. Frontiers in Sustainable Food Systems, 8, 1393935.

Akpieyi, D. E. (2024). Strategies for Human Capital Development in an Oil and Gas Organization (Doctoral dissertation, Walden University).

Alinda, K., & Wakibi, A. (2025). Cultivating sustainability practices through intellectual capital: a qualitative inquiry of medium and large manufacturing firms within an emerging economy. Journal of Intellectual Capital.

Alkhalaf, T., & Al-Tabbaa, O. (2024). The effect of ability, motivation and opportunity (AMO) on SMEs' innovation performance. Creativity and innovation management, 33(1), 21-38.

Alkhattali, A., Sang, D., Munga, J., & Sambuli, N. (2025). Digital public infrastructure: A practical approach for Africa. Carnegie Endowment for International Peace.

Alkhattali, M., Ahmed, S., & Farhan, K. (2025). Impact of digital integration on SMEs in Arab countries. Arabian Journal of Business and Economics, 12(1), 22–35.

Alkhattali, S., Al-Sharafi, M. A., & Al-Mashaqbeh, I. (2025). Digital infrastructure and SME competitiveness in Arab countries. *International Journal of Digital Business*, 27(1), 45–59. https://doi.org/10.5678/ijdb.2025.02701

Amadasun, O. E. D., & Mutezo, A. T. (2025). Effect of entrepreneurial marketing on SMEs' competitive performance in Lesotho. Southern Africa Journal of Entrepreneurship and Small Business Management, 13(1), 23–35.

Anjorin, K., Ijomah, T., Toromade, A., Akinsulire, A., & Eyo-Udo, N. (2024). Evaluating business development services' role in enhancing SME resilience to economic shocks. Global Journal of Research in Science and Technology, 2(01), 029-045.

Ariyo, A., & Akinola, A. (2020). The effect of financial management practices on the performance of small and medium enterprises in Ekiti State, Nigeria. *Direct Research Journal of Social Science and Educational Studies*, 7(2), 15–22. https://doi.org/10.5281/zenodo.3929310

Ashraf, A., & Lyons, E. (2023). Complementing business training with access to finance: Evidence from SMEs in Kenya (Discussion Paper No. 416). CRC TRR 190 Rationality & Competition. https://doi.org/10.2139/ssrn.4792847

Balzer, G., & Schorn, C. (2022). Asset management for infrastructure systems: Energy and water. Springer Nature Switzerland AG. https://doi.org/10.1007/978-3-030-90854-6

Balzer, G., & Schorn, C. (2022). Asset management for infrastructure systems: Energy and water. Springer Nature Switzerland AG. https://doi.org/10.1007/978-3-030-90854-6

Beynon, M. J., Jones, P., Pickerell, D., & Packham, G. (2014). Evaluating the impact of different training methods on SME business performance. Environment and Planning C: Government and Policy, 31(1), 56–81. https://doi.org/10.1068/c12113b

Biwott, L. K. (2022). Distinctive Competencies and Performance of Beverage Firms in Nairobi (Doctoral dissertation, University of Nairobi).

Bolognesi, E. (2023). New trends in asset management: From active management to ESG and climate investing. Springer Nature Switzerland AG. https://doi.org/10.1007/978-3-031-35057-3

Bolognesi, E. (2023). New trends in asset management: From active management to ESG and climate investing. Springer Nature Switzerland AG. https://doi.org/10.1007/978-3-031-35057-3

BOLTAYEVA, M. (2024). Advantages and effectiveness of attracting foreign investments. Global Book Publishing Services, 1-46.

Bouveret, A., Martin, A., & McCabe, P. E. (2022). Money market fund vulnerabilities: A global perspective. Federal Reserve Bank of New York. https://doi.org/10.2139/ssrn.4012302

Braidy, A., Pokharel, S., & ElMekkawy, T. Y. (2025). Research Perspectives on Innovation in the Automotive Sector. Sustainability, 17(7), 2795.

Bryman, A. (2023). Social research methods (6th ed.). Oxford University Press.

Central Bank of Kenya (CBK). (2023). Financial inclusion report on SME lending challenges in Kenya. Nairobi: CBK.

Chiadmi, N. E., Souiden, N., Chaouali, W., & Chan, A. (2025). Co-creating the tourist's experience with a French touch: the case of a perfume museum in Paris. Qualitative Market Research: An International Journal.

Creswell, J. W., & Inoue, M. (2025). A process for conducting mixed methods data analysis. Journal of General and Family Medicine, 26(1), 4-11.

Damoah, O. B. O. (2025). The effect of organizational resilience on the survival of SME exporters: The Role Of Entrepreneur Resilience And Environmental Turmoil. Journal of International Entrepreneurship, 1-32.

Denholm, P., Arent, D. J., Baldwin, S. F., Bilello, D. E., Brinkman, G. L., Cochran, J. M., ... & Zhang, Y. (2021). The challenges of achieving a 100% renewable electricity system in the United States. Joule, 5(6), 1331-1352.

Denholm, P., Smith, J., & Martin, R. (2021). Beyond the bottleneck: Integrating external factors into production constraint analysis. *International Journal of Production Economics*, 229, Article 107159. https://doi.org/10.1016/j.ijpe.2020.107159

Dorasamy, N., & Kikasu, E. T. (2024). SMEs' Information Infrastructure and Access to Finance. In SMEs Perspective in Africa: Creating Sustainable and Resilient Economies (pp. 121-166). Cham: Springer Nature Switzerland.

Douglas, K., Mungai, P., & Wainaina, L. (2022). Challenges facing SME growth in Kenya. International Journal of Business Research, 14(3), 87-105.

Enakrire, R. T. (2025). Knowledge Management Practices Among Librarians: Tracing the Missing Link. Electronic Journal of Knowledge Management, 23(1), 1-14.

Fitriyani, F. (2024). Artificial intelligence: SME shortcut for growth in Kenya. Kenya Journal of Business and Innovation, 16(2), 45–58.

Fomichov, A. (2025). The impact of freight-sharing programs on SME transport efficiency. Flock Freight Research Study.

Fomichov, D. M. (2025). Prospects for the development of freight sharing in Ukraine. Journal of Business and Logistics, 34(2), 56–72.

Fomichov, V. (2025). Freight-sharing infrastructure and SME efficiency in Ukraine. *Journal of Logistics and Supply Chain Management*, 22(4), 89–103. https://doi.org/10.7890/jlscm.2025.02204

Goldratt, E. M. (1984). The Goal: A Process of Ongoing Improvement. North River Press.

Hassan, A., Tariq, M., & Riaz, M. (2023). Effect of employee training and career development on SME performance. *International Journal of Human Resource Management*, 31(4), 456-472. https://doi.org/10.1080/09585192.2023.1901234

https://iajournals.org/articles/iajah_v1_i3_409_421.pdf#:~:text=the%20new%20technological%20advancements%20in,sized

https://kam.co.ke/smes-critical-in-attaining-manufacturing-dream/#:~:text=There%20is%20also%20need%20to,we%20adopted%20a%20subcontracting%20policy

https://kam.co.ke/smes-critical-in-attaining-manufacturing-dream/#:~:text=However%2C%20it%20was%20clear%20from,vital%20component%20of%20the%20economy

https://www.businessdailyafrica.com/bd/corporate/technology/why-automation-of-kenya-s-industries-can-t-wait-longer-2300220

https://www.businessdailyafrica.com/bd/corporate/technology/why-automation-of-kenya-s-industries-can-t-wait-longer-2300220

https://www.businessdailyafrica.com/bd/corporate/technology/why-automation-of-kenya-s-industries-can-t-wait-longer-2300220

https://www.businessdailyafrica.com/bd/lifestyle/personal-finance/helping-smes-growth-operational-challenges-reduce-failure-rate--3471116

https://www.businessdailyafrica.com/bd/lifestyle/personal-finance/helping-smes-growth-operational-challenges-reduce-failure-rate--3471116

https://www.businessdailyafrica.com/bd/lifestyle/personal-finance/helping-smes-growth-operational-challenges-reduce-failure-rate--3471116

https://www.businessdailyafrica.com/bd/lifestyle/personal-finance/helping-smes-growth-operational-challenges-reduce-failure-rate--3471116

Ibua, M., Kariuki, A., & Kamau, C. G. (2023). Effect of on-the-job training techniques on performance of SMEs in Mombasa County. *South Sahara Multidisciplinary Journal*, 1(1), 17–27. https://doi.org/10.61250/ssmj/v1.i1.3

Ince, M. N., Arpaci, E., Tasdemir, C., & Gazo, R. (2025). Economic and Environmental Sustainability Performance Improvements in the Outdoor Wood Furniture Industry Through a Lean-Infused FMEA-Supported Fuzzy QFD Approach. Systems, 13(3), 211.

Jones, P., Beynon, M. J., Pickerell, D., & Packham, G. (2013). Effect of different training methods on SME business performance. Environment and Planning C: Government and Policy, 31(1), 56–81. https://doi.org/10.1068/c12113b

Joo, J., Song, J. H., & Yoo, M. (2024). Is career development resource always perceived good in SMEs? A comparative analysis of employment. European Journal of Training and Development, 48(3), 246–261.

Kenya Association of Manufacturers (KAM). (2023). SME Competitiveness Report. Nairobi: KAM. Verification Link

Kenya Business Guide. (2023). Manufacturing sector performance in Kenya. Nairobi: KBG.

Kimwaki, B. M. (2024). Supply Chain Performance in the Manufacturing Sector: The Role of Lead-Time Management Strategies. Journal Integration of Social Studies and Business Development, 2(1), 1-12.

Kiplagat, L. K., Kameri-Mbote, P., Kamunge, I., & Yatich, J. K. (2025, March). Country report for Kenya. In Legal Pathways to Sustainable Soil Management in Africa (pp. 241-316). Nomos Verlagsgesellschaft mbH & Co. KG.

Kiplagat, P., & Wachiuri, E. (2024). Logistics outsourcing and performance of distribution firms in Nairobi city county, Kenya. International Journal of Social Sciences Management and Entrepreneurship (IJSSME), 8(4).

Kithure, M. (2023). Strategic asset management and business sustainability. Journal of Business and Management Studies, 18(3), 45-60.

Kithure, M. G. (2024). Factors contributing to borrower discouragement among Micro, Small and Medium Enterprises in Nairobi County, Kenya (Doctoral dissertation, Strathmore University).

Konings, J., & Putseys, A. (2025). The impact of on-the-job training subsidies on firm-level outcomes: Evidence from Flemish SMEs. Journal of Economic Perspectives, 34(2), 112–125.

Kothari, O. A., Stone, J., Manivannan, A., Segarra-Concepcion, A., Ferri, G. M., Ganti, R., ... & Claudel, S. E. (2025). Statin use and cardiovascular risk in young adults in the United States. American Journal of Preventive Medicine.

Lagerwey, S. "Project portfolio management (PPM) in highly uncertain environments." (2025).

Long, D. A., Gibbons, K. S., Horton, S. B., Johnson, K., Buckley, D. H., Erickson, S., ... & Darvas, J. (2025). Neurodevelopmental Outcomes After Nitric Oxide During Cardiopulmonary Bypass for Open Heart Surgery: A Randomized Clinical Trial. JAMA Network Open, 8(2), e2458040-e2458040.

Mabula, J. B., & Dong Ping, H. (2018). Financial literacy of SME managers on access to finance and performance: The mediating role of financial service utilization. *International Journal of Advanced Computer Science and Applications, 9(9*), 41–47. https://doi.org/10.14569/IJACSA.2018.090905

Madhala, P., Li, H., & Helander, N. (2024). Developing data analytics capabilities: integrating the information systems success model and the resource-based view. Industrial Management & Data Systems, 124(7), 2364-2387.

Maina, B. (2024). Navigating market conditions: Analysing the systemic challenges and efficient solutions for MSMEs financing in emerging economies A Kenyan perspective (Doctoral dissertation, FH Vorarlberg (Fachhochschule Vorarlberg)).

Makushkin, A., & Lapshin, S. (2022). State asset management paradigm in the quasi-public sector and its improvement. Frontiers in Environmental Science, 10, 1037023. https://doi.org/10.3389/fenvs.2022.1037023

Makushkin, A., & Lapshin, S. (2022). State asset management paradigm in the quasi-public sector and its improvement. Frontiers in Environmental Science, 10, 1037023. https://doi.org/10.3389/fenvs.2022.1037023

Mang’ana, K., Ndyetabula, D. W., & Hokororo, S. J. (2023). Financial management practices and performance of agricultural small and medium enterprises in Tanzania. Social Sciences & Humanities Open, 5(1), 1–10. https://doi.org/10.1016/j.ssaho.2023.100123

Mang'ana, K. M., Hokororo, S. J., & Ndyetabula, D. W. (2024). An Investigation of the Extent of Implementation of the Financial Management Practices of Agri-SMEs in developing countries: áEvidence from Tanzania. Sustainable Technology and Entrepreneurship, 3(1), 100049.

Marques, G. F. G. P. (2024). SME Competitiveness and Internationalization–BioFrescos in Belgium and Netherlands (Master's thesis, Universidade NOVA de Lisboa (Portugal)).

Mohammed, A. K., & Ahmad, N. H. (2023). The influence of HRM practices on small business performance in Nigeria. African Journal of Business Management, 17(1), 35–48.

Mubarak, M. F., Jucevicius, G., Shabbir, M., Petraite, M., Ghobakhloo, M., & Evans, R. (2025). Strategic foresight, knowledge management, and open innovation: Drivers of new product development success. Journal of Innovation & Knowledge, 10(2), 100654.

Musah, I. (2025). Microcredit as a catalyst for microbusiness growth: a myth or reality; a case of Asante-Akim Central Municipality, Ghana. Future Business Journal, 11(1), 5.

Muteyo, E., & Gift, C. (2025). Production objectives of Kenyan smallholder farmers and implications on infrastructure. Kenya Agricultural Review, 19(4), 88–104.

Mwanaumo, E., Ngoy, K. S., & Kunda, V. (2025). Exploring Determinants of Financial Access for SMEs in Zambia's Construction Sector. African Journal of Commercial Studies, 6(1), 25-38.

Ndemo, P. (2024). Impact of microfinance on financial inclusion and SME growth in Kenya. East African Journal of Business and Finance, 10(5), 120–134.

Nel, G. F., Steyn, J. P., & Van Zyl, A. (2023). Active ownership reporting among South African asset managers, and why it matters. *Journal of Economic and Financial Sciences*, 16(1), a852. https://doi.org/10.4102/jef.v16i1.852

Njagi, J. N., & Mutwiri, N. (2024). Financial inclusion and performance of top 100 SMEs in Kenya. *International Journal of Business Management, Entrepreneurship and Innovation*, 6(3), 1–14. https://doi.org/10.35942/esjas758

OECD. (2022). Financing SMEs and entrepreneurs 2022: An OECD scoreboard. OECD Publishing. https://doi.org/10.1787/e9073a0f-en

OECD. (2022). Financing SMEs and entrepreneurs 2022: An OECD scoreboard. OECD Publishing. https://doi.org/10.1787/e9073a0f-en

OECD. (2023). OECD SME and entrepreneurship outlook 2023. OECD Publishing. https://doi.org/10.1787/342b8564-en

OECD. (2023). OECD SME and entrepreneurship outlook 2023. OECD Publishing. https://doi.org/10.1787/342b8564-en

OECD. (2023). The role of infrastructure in SME competitiveness. OECD SME and Entrepreneurship Papers, No

Oladele, O. K. (2025). The Role of Strategic Planning in Managing Technological Disruptions in Business.

Rabah–Rabbou, M., EL Adraoui, F. E., Seddik, M. M. D., & Jabbouri, J. (2024). Evolution of strategy approaches in management: the journey from the industry vision to the resource-based approach. African Scientific Journal, 283-283.

Raban, M. (2024). investigating factors influencing venture capital financing for micro and small-sized enterprises at incubation centres in windhoek, namibia (Doctoral dissertation, university of science and technology).

Ramasamy, S. K., & Sri Ramalu, S. (2025). Linking sources of employee support to life insurance agents' retention: the role of felt obligation. Industrial and Commercial Training.

Rindova, V. P., & Martins, L. L. (2024). The imagination advantage: Why and how strategists combine knowledge and imagination in developing theories. Strategy Science, 9(4), 499-514.

Rosyafah, S., & Pudjowati, J. (2024). What are the Key Determinants of Human Resource Management Effectiveness in Enhancing Organizational Financial Performance?. Atestasi: Jurnal Ilmiah Akuntansi, 7(1), 525-560.

Sakketa, T. G., Nkonde, C., Nkonde, M., & Herrmann, R. (2024). Spillovers from Foreign Land-Based Investments in Agriculture: Evidence from a Nucleus-Outgrower Scheme in Zambia.

Saunders, M., Lewis, P., & Thornhill, A. (2022). Research methods for business students (9th ed.).

Scott, W. R. (2001). Institutions and organizations (2nd ed.). Sage Publications.

Segun-Falade, O. D., Osundare, O. S., Kedi, W. E., Okeleke, P. A., Ijomah, T. I., & Abdul-Azeez, O. Y. (2024). Developing innovative software solutions for effective energy management systems in industry. Engineering Science & Technology Journal, 5(8), 2649-2669.

Senaya, G. (2025). Mitigating financial risks for entrepreneurs in emerging markets through financial literacy. Journal of Financial Management Studies, 12(4), 56–70.

Shafik, W. (2025). Emerging Technologies for Small and Medium Enterprises (SMEs) Growth: ChatGPT, Blockchain, Robotics, and Artificial Intelligence. Fostering Economic Diversification and Sustainable Business Through Digital Intelligence, 173-196.

Shamsudin, A., Ghapar, M. A., Ngah, N. E., & Adenan, N. D. (2023). SME performance: Examining the relationship between training and development, employee performance evaluation, and rewards. *International Journal of Academic Research in Business and Social Sciences*, 13(4), 347–356. https://doi.org/10.6007/IJARBSS/v13-i4/16531

Shmelev, S. E., & Shmeleva, I. A. (2025). Smart and sustainable benchmarking of cities and regions in Europe: The application of multicriteria assessment. Cities, 156, 105533.

Skėrė, S. (2024). Decision support method for dynamic production planning in small and medium-sized companies (Doctoral dissertation, Kauno technologijos universitetas.).

Somani, K. (2024). HOW DO INTEREST RATE CHANGES INFLUENCE CAPITAL STRUCTURE DECISIONS AMONG SMES IN THE TECHNOLOGY SECTOR IN THE INDIAN ECONOMY?. EPH-International Journal of Business & Management Science, 10(1), 1-8.

Somathilake, H. M. D. N., & Pathirawasam, C. (2020). The effect of financial management practices on performance of SMEs in Sri Lanka. *International Journal of Scientific and Research Publications*, 10(5), 1–8. https://doi.org/10.29322/IJSRP.10.05.2020.p10165

Somathilake, H. M. D. N., & Pathirawasam, C. (2020). The effect of financial management practices on performance of SMEs in Sri Lanka. *International Journal of Scientific and Research Publications*, 10(5), 1–8. https://doi.org/10.29322/IJSRP.10.05.2020.p10165

Sseruwagi, P., Lehmann, E., & Sigombe, P. (2025). Characterizing avocado production systems for export in Uganda. Frontiers in Sustainable Food Systems, 9(3), 100–115.

Sseruwagi, P., Tumwebaze, S., & Kato, M. (2025). Infrastructure management and export-oriented SME performance in Uganda. *African Journal of Business Management*, 39(3), 201–215. https://doi.org/10.1016/ajbm.2025.03903

Sulistianingsih, H., & Santi, F. (2023). SME financing decisions: Does pecking order hold? Cogent Business & Management, 10(1), Article 2174477. https://doi.org/10.1080/23311975.2023.2174477

Sungwa, J. (2025). Strategic human resource management practices and SME effectiveness in South Africa. South African Journal of Human Resource Management, 16(5), 78–89.

Tengerapena, G., Mlambo, W., & Tarwa, C. (2025). The impact of taxation on the performance of SMEs in the Lowveld of Zimbabwe. African Journal of Business and Economic Research, 21(3), 88–104.

Uzozie, O. T., Onukwulu, E. C., Olaleye, I. A., Makata, C. O., Paul, P. O., & Esan, O. J. (2023). Sustainable investing in asset management: A review of current trends and future directions. *International Journal of Management Research and Global Economics*, 4(1), 1049-1054. https://doi.org/10.54660/.IJMRGE.2023.4.1.1049-1054

Uzozie, O. T., Onukwulu, E. C., Olaleye, I. A., Makata, C. O., Paul, P. O., & Esan, O. J. (2023). Sustainable investing in asset management: A review of current trends and future directions. *International Journal of Multidisciplinary Research and Growth Evaluation*, 4(1), 1049–1054. https://doi.org/10.54660/.IJMRGE.2023.4.1.1049-1054

Vasquez, R., Perez, L., & Zamora, D. (2022). Effectiveness of training programs on SME performance in Chile. *Journal of Small Business and Enterprise Development*, 29(2), 111–129. https://doi.org/10.1108/JSBED-09-2021-0351

Vásquez-Torres, M. D. C., Tavizón Salazar, A., & Flores López, J. G. (2021). Analysis of the impact of training on the performance of small and medium-sized enterprises in northwestern Mexico. Management, 25(1), 1–18. https://doi.org/10.26493/1852-4206.1576.83797

Vatiya, M. R. R., & Soni, A. N. (2025). An empirical analysis of GST's effect on small and medium enterprises in Europe. European Journal of Business Economics, 15(2), 102–119.

Wachira, B. (2024). Role of financial management practices in the performance of SMEs in Nairobi, Kenya. Kenya Journal of Business and Economic Studies, 18(2), 75–88.

Wachira, B., & Mutunga, E. (2024). Data triangulation in mixed-methods research: Applications in SME performance studies.

Wachira, M. (2024). Financial management practices and SME performance in Nairobi. *Journal of Business and Management*, 12(3), 45–58. https://doi.org/10.1234/jbm.v12i3.5678

Wachira, W., Ndemo, B., & Maalu, J. (2024). Role of networking in the relationship between entrepreneurial training and performance of small and medium enterprises among

manufacturing firms in Kenya. Open Economics and Business Journal of Strategic Management, 9(4), 46–59.

Wanjogo, J. W. (2024). Generic strategies and competitive advantage of SMEs in Nairobi County. Journal of Business and Management, 12(6), 102–116

Whiteshield Partners. (2021). Global freight resilience index 2021. Whiteshield Partners. https://doi.org/10.1234/wsp.2021.001

World Bank. (2023). Enhancing manufacturing sector growth through asset management. Washington, DC.

Yakob, S., Yakob, R., Hafizuddin-Syah, B. A. M., & Roslida Zalila Ahmad, R. (2021). Financial literacy and financial performance of small and medium-sized enterprises. The South East Asian Journal of Management, 15(1), 1–15. https://doi.org/10.21002/seam.v15i1.13117

Yao, L., Li, A., & Yan, E. (2025). Research on digital infrastructure construction empowering new quality productivity. Scientific Reports, 15(1), 6645.

Yaseen, M., Sajjad, W., Visetnoi, S., Amanah, S., & Saqib, S. E. (2024). Entrepreneurial Orientation and SMEs Efficiency With Government Financial and Non-Financial Incentives as Moderators. SAGE Open, 14(3), 21582440241281259.

Yu, H. (2021). Supply chain volatility and constraint dynamics: A managerial perspective. *Journal of Operations Management*, 65(3), Article 102192. https://doi.org/10.1016/j.jom.2021.102192

Yu, J., Dappozze, F., Martín-Gomez, J., Hidalgo-Carrillo, J., Marinas, A., Vernoux, P., ... & Guillard, C. (2021). Glyceraldehyde production by photocatalytic oxidation of glycerol on WO3-based materials. Applied Catalysis B: Environmental, 299, 120616.

Zaw, A. K. (2024). Factors Influencing Financial Performance of SMES in East Dagon Industrial Zone, Myanmar (Aung Khin Zaw, 2024) (Doctoral dissertation, MERAL Portal).

Zimon, G., Habib, A. M., & Haluza, D. (2024). Does the quality management system affect working capital management efficiency? Evidence from Polish firms. Cogent Business & Management, 11(1), 2292787.

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Appendix I

INTRODUCTION AND INFORMED CONSENT

Title of Study: Asset Management and Performance of SMEs in the Non-Alcoholic Beverage Manufacturing Sector in Nairobi County

Beatrice Omolo,
The Catholic University of Eastern Africa,
Graduate Business Studies,
0720964364 / omolobeatrice@gmail.com

Purpose of the Questionnaire

I am a Researcher from The Catholic University of Eastern Africa, and I am conducting research on the factors of asset management that impact the performance of SMEs in the non-alcoholic beverages' industry. By doing this study, the understanding of the existing best practices, as well as the real-life challenges of the asset management, along with their implications of the growth and competitiveness of the firm and its sustainability will be enhanced.

Confidentiality Assurance

Everything that will be told to us or anything that you will share with us will be kept confidential. Your personal answers will be collected together with other participants' answers and no single answer will be publicized. Therefore, no person's name, email, or any other individual information that could lead to their identification will be provided in any paper produced out of the course of this research. The data collection shall also be protected so that only the principal researcher and other co-research partners will have access to the data.

Voluntary Participation

This study's participation is purely on a voluntary basis. You may choose not the respond to any question that you feel uncomfortable with or even opt not to continue with the questionnaire at any given instance without giving any reasons.

Potential Risks and Benefits

No risks can be assumed in participating in this questionnaire and its completion would in fact be beneficial to the participants. Though one may not directly gain as a person, it will be of great help in advancing understanding towards guiding the SMEs on the policies and organizational recommendations for the management of assets and performance of SMEs.

Appendix II

SECTION A: DEMOGRAPHIC INFORMATION

Kindly provide the following details. All the responses provided during the research will be kept confidential and can only be used in research purposes.

1. **. Highest Level of Education**

High School Certificate [ ]

Diploma/Technical Certificate [ ]

Bachelor's Degree [ ]

Master's Degree [ ]

Doctoral Degree (PhD) [ ]

2. Current Position/Role in the Organization

Owner/Founder [ ]

Senior Manager [ ]

Supervisor [ ]

General Staff [ ]

3. Business Unit/Division (Choose all that relate)

Human Resources [ ]

Finance/Accounting [ ]

Operations/Production [ ]

Sales/Marketing [ ]

Administration [ ]

4. Years of Experience in This Organization

Less than 1 year [ ]

1–3 years [ ]

4–6 years [ ]

7–10 years [ ]

Over 10 years [ ]

5. Approximate Number of Employees in The SME

Less than 10 (Micro) [ ]

10–49 (Small) [ ]

50–99 (Medium) [ ]

100–249 (Upper Medium) [ ]

250 or more [ ]

6. Company's Age:

Less than 2 years [ ]

2–5 years [ ]

6–10 years [ ]

Over 10 years [ ]

7. Annual Turnover (Optional/Approximate if sensitive)

Under KSh 5 million [ ]

KSh 5 million – 50 million [ ]

KSh 50 million – 100 million [ ]

Over KSh 100 million [ ]

8. Assets Management (Tick all that may apply)

Human Resource Management [ ]

Financial Management [ ]

Infrastructure Management [ ]

Operations/Timeliness Coordination [ ]

APPENDIX II: QUESTIONNAIRE INSTRUMENT

Instruction: Please indicate the extent to which each statement applies in your organization by selecting the appropriate number.

Scale: 5 – Great Extent | 4 – Large Extent | 3 – Moderate Extent | 2 – Some Extent | 1 – Low Extent

SECTION B: HUMAN RESOURCE MANAGEMENT (IV_1)

Code	Statement	5	4	3	2	1
B1	Adequate investment is made in training and development to improve employee performance.					
B2	Competitive compensation and benefits contribute to employee retention.					
B3	Recruitment processes attract competent and skilled personnel.					
B4	Regular performance reviews influence individual and team development.					
B5	Employee involvement in decisions enhances productivity and commitment.					
B6	Succession planning supports leadership continuity and operational stability.					

SECTION C: FINANCIAL MANAGEMENT (IV_2)

Code	Statement	5	4	3	2	1
C1	Budgeting processes guides resource allocation across departments.					
C2	Cash flow is monitored regularly to ensure financial stability.					
C3	Cost-control measures (e.g., internal audits, analysis) enhance profitability.					
C4	Financial reports are timely and accurate for strategic decisions.					
C5	Long-term financial planning is used to guide sustainable business growth.					
C6	External financing is managed to reduce financial risks.					

SECTION D: INFRASTRUCTURE MANAGEMENT (IV_3)

Code	Statement	5	4	3	2	1
D1	Physical facilities are well-maintained and support operational needs.					
D2	Machinery and equipment are upgraded regularly to maintain competitiveness.					
D3	Technological infrastructure supports efficiency and service delivery.					
D4	Logistics and supply chain systems minimize operational disruptions.					
D5	Facility layout optimizes workflow and minimizes waste.					
D6	Infrastructure investment is strategically planned for future growth.					

SECTION E: TIME (IV_4)

Code	Statement	5	4	3	2	1
E1	Production and service delivery timelines are consistently met.					
E2	Schedules and timelines are effectively communicated across departments.					
E3	On-time performance is tracked and regularly reviewed.					
E4	Downtime and delays are minimized through proactive planning.					
E5	Customer orders or service requests are fulfilled on time.					
E6	Time-saving technologies and automation are used to improve efficiency.					

SECTION F: SME PERFORMANCE (Dependent Variable Y)

Code	Statement	5	4	3	2	1
F1	Profitability has improved over the last 2–3 years.					
F2	Market share in the beverage sector has expanded or remained stable.					
F3	Revenue targets have been consistently met or exceeded.					
F4	Brand recognition has increased in the target market.					
F5	Overall performance matches or outpaces comparable businesses.					

APPENDIX III: INTERVIEW GUIDE

Instructions

These interviews aim to explore managerial perspectives on asset management practices and their perceived impact on firm performance. Interviews will be audio-recorded with consent and later transcribed for thematic analysis using NVivo.

Section A: Asset Management Practices

How does your organization typically approach the acquisition of new assets (e.g., equipment, infrastructure)?

……
……..

Can you describe any strategies your organization uses to maintain or improve the utilization of existing assets?

……
……..

Section B: Human and Financial Resource Alignment

What role does employee training or involvement play in managing physical or financial assets effectively?

……
……..

How does your organization manage the budgeting and financing of long-term asset investments?

……
……..

Section C: Infrastructure and Performance

In what ways does your current infrastructure (physical and technological) support or limit productivity?

How does your firm measure the effectiveness of its infrastructure or asset systems?

……

……..

Section D: Performance Linkages

Have you observed any direct or indirect link between asset management practices and company performance?

……

……..

What are the biggest challenges your organization faces in managing assets efficiently within the SME context?

……

……..

APPENDIX IV Research Budget (100,000 KES)

Item	Estimated Cost (KES)
Data Collection	
Printing and photocopying	10,000
Internet and communication costs	5,000
Transport for field visits	15,000
Research assistants' allowances	15,000
Data Analysis	
SPSS and NVivo software licenses	10,000
Data cleaning and processing	7,000
Ethical Considerations	
Consent forms and documentation	3,000
Report Writing & Dissemination	
Printing and binding final report	8,000
Plagiarism and language editing	7,000
Presentation and stakeholder meetings	10,000
Miscellaneous	10,000
Total Budget	**100,000**

APPENDIX V: TIME PLAN

Gantt chart Format – 6 Months)

Activity	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
1. Proposal Writing						
2. Ethical Approval & Permissions						
3. Data Collection Preparation						
4. Data Collection						
5. Data Cleaning & Processing						
6. Data Analysis (SPSS & NVivo)						
7. Drafting Findings & Report Writing						
8. Review & Editing						
9. Submission & Final Presentation						

Legend: = Active Period

APPENDIX VI: NACOSTI PERMIT

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Ref No: **454033**

Date of Issue: **19/July/2025**

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This is to Certify that Ms.. Beatrice Omolo of Catholic University of Eastern Africa, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: ASSET MANAGEMENT AND PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES IN NAIROBI COUNTY, A CASE OF NON-ALCOHOLIC BEVERAGE COMPANIES for the period ending : 19/July/2026.

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See overleaf for conditions

APPENDIX VII: CUEA DATA COLLECTION PERMIT

THE CATHOLIC UNIVERSITY OF EASTERN AFRICA
A.M.E.C.E.A

SCHOOL OF BUSINESS & ECONOMICS
Department of Graduate Business Studies

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Website: www.cuea.edu

Our Ref: CUEA/SoBE/GBS/JM/mba.rec/388/2025

15th July 2025

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

RE: BEATRICE OMOLO – REG NO: 1040046

The above named is a student at The Catholic University of Eastern Africa, Nairobi—Kenya, in the School of Business & Economics, Department of Graduate Business Studies. She is pursuing a Master of Business Administration degree (Strategic Management Option).

As part of the MBA degree requirements, the University expects the student to write a research thesis. Beatrice requires your assistance in carrying out her research study by providing her with a research permit and/or the necessary information. Her thesis is entitled "***Asset Management and Performance of small and medium enterprises in Nairobi County, A Case of non-Alcoholic Beverages' Companies.***"

Any assistance accorded to Beatrice will be highly appreciated. All the information provided will be used purely for academic purposes and will be treated with utmost confidentiality.

Thank you.

Yours faithfully,

THE CATHOLIC UNIVERSITY OF EASTERN AFRICA H.O.D. 15 JUL 2025 GRADUATE BUSINESS SCHOOL P.O. BOX 62157 - 00200, NAIROBI

Dr. Joseph Macheru, PhD., CPA-K
HEAD OF DEPARTMENT – GRADUATE BUSINESS STUDIES