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COSTS MANAGEMENT PRACTICES: KEY DRIVERS TO PROFITABILITY OF REGISTERED SEED MERCHANTS IN NAIROBI CITY COUNTY, KENYA

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ABSTRACT

Registered Seed Merchants are key players in Kenya's agricultural value chain. Registered Seed Merchants ensure availability of certified seed inputs across markets that enhance yields for the farmers, food security and furthering economic growth. Despite their strategic importance, many Registered Seed Merchants in Kenya continue to experience fluctuating profitability and rising costs in the seed certification value chain. This study therefore sought to ascertain the effect of costs management on the profitability of registered Seed Merchants in Nairobi City, Kenya. This study adopted descriptive and explanatory cross-sectional research designs. The target respondents comprised of 184 finance, operations, and marketing and inventory managers drawn from the 46 registered Seed Merchants by Kenya Plant Health Inspectorate Service under Cap. 326, and operating within Nairobi City County. Primary data were collected through questionnaires while secondary profitability was collected for the years 2021-2025. Descriptive statistics (frequencies, percentages, means, and standard deviations) and inferential methods (correlation and multiple regression) were applied. Outcomes indicated that cost compliance and production cost management both had a positive but non-significant effects on profitability indicating that although effective compliance and production management contributed positively to Return on Assets (ROA), they were not significant, Marketing and distribution and operations cost management both had positive and significant effect on profitability. The study recommends that registered Seed Merchants prioritize investment in efficient marketing, distribution and operational cost management systems by strengthening logistics management, adopting cost-effective marketing strategies, continuously monitoring operating expenses and promoting a cost-conscious organizational culture.

Key Terms: *Compliance Cost, Cost Management, Marketing Cost, Operational Cost and Profitability*

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INTRODUCTION

Registered Seed Merchants are key players in agricultural sector and in seed certification sub-sector as they grow, process and distribute quality certified seeds to farmers in the country. This boosts the availability of genuine seeds and provide sustainable crop yields to the farmers. The agricultural sector in Kenya contributed to at least 22.5% of the Gross Domestic Product (GDP) vital in national employment and achieving food security. The sector employed at least 308, 865 people as at the end of 2024 (Kenya National Bureau of Statistics [KNBS], 2025).

Registered Seed Merchants' profitability remains a central objective of business organizations which shows the ability to generate returns from Seed merchants' internal resources upon adjusting operating, processing, marketing and compliance outlays. Profitability is not only an indicator of operational efficiency but also a measure of sustainability, competitiveness and shareholder value in the long term. According to Phornlaphatrachakorn (2018), profitability is significantly influenced by the effectiveness with which firms design and implement strategic cost management systems which align cost structures with competitive strategies.

Costs management refers to the co-ordinated managerial actions aimed at planning, controlling, reducing and optimizing costs without compromising quality, customer satisfaction or long-term strategic objectives. Unlike traditional cost control approaches that emphasize on short-term expense minimization, strategic cost management focuses on understanding cost behaviour, cost drivers and the role of costs in achieving competitive advantage (Celestin, 2018). Prior empirical studies consistently demonstrate that, well-articulated cost management practices significantly enhance firm profitability in the period of economic uncertainty and market turbulence (Adeniyi & Egbunike, 2017).

The registered Seed Merchants operate in a complex regulatory environment that attracts costs including but not limited to compliance costs, production costs, operational costs, selling and distribution expenses (Almashhadani & Almashhadani, 2022). Efficient costs management are required to ensure high costs do not pressure the assets and deplete the net profit after tax. This study researches on how different cost managements adopted by registered Seed Merchants in Nairobi City County influence their profitability, measured by Return on Assets. These dynamics are crucial for both registered Seed Merchants (businesses) and policymakers aiming to adopt a sustainable and competitive seed industry (Mvungi et al., 2020).

Worldwide, costs management is considered significant determinant of companies' profitability across industries. In developed countries mainly the United States and Asia, companies integrate cost management systems into their strategic choices dynamics. Celestin (2018) emphasized cost management as critical in product pricing and market competitiveness. This enables companies to align costs with pricing strategies and customer value planning. Companies that apply strategic cost accounting practices are better positioned to achieve sustainable profitability through informed pricing and cost control measures as per the study.

In Asia, empirical evidence further shows the strategic importance of costs management. Phornlaphatrachakorn (2018) in a study of instant and convenience food businesses in Thailand, found strategic cost management positively impacting firm profitability. It verified that, firms that systematically analyse cost drivers, manage production costs and operational costs and further align their cost structures with competitive strategies experienced improved profitability. These findings highlight costs management as a practical and value creating activity rather than a post cost-cutting activity for companies.

Evidence from China also supports the global relevance of costs management in competitive markets. Wu et al. (2015) examined business strategy and market competition interaction with fiscal outcomes among Chinese firms. The study revealed that, firms operating in highly competitive markets rely heavily on cost-based strategies to protect profits hence enhancing performance. Effective cost controls and strategic

alignments were shown to reduce financial distortions supporting profitability. This was observed in environments characterized by intense competition and pricing pressures.

Due to structural issues like high manufacturing costs, inefficient infrastructure, restricted access to financing and unstable economic situations, cost management is important in the African environment. The majority of African economies are made up of SMEs which are susceptible to cost inefficiencies. Kajal et al. (2021) conceptualized costs management as a tool for SME's sustainability, efficient control of production costs, operating costs and administrative costs boosting profitability and competitiveness in settings with limited resources.

Costs management have gained importance in Kenyan economy due to the rising operational costs, regulatory burdens and increased competition in different sectors. Kenyan companies operate in an environment of fluctuating energy costs, high taxation, compliance requirements and market uncertainties. This makes effective cost controls critical for better profitability. Njoroge et al. (2024) linked cost control practices to bolstered financial outcomes at Bamburi Cement Limited establishing, effective cost control significantly improves financial performance. The study indicated that, managing production, operational and administrative costs enhance profitability and supports long term sustainability in industries that require high capital investment. This evidence shows the pertinency of costs management in improving firm performance (profitability) within the Kenyan context.

Registered Seed Merchants in Nairobi City County, Kenya

Registered Seed Merchants are key players in Kenya's agricultural value chain. Seed Merchants facilitate the production, distribution and commercialization of certified seeds with high quality to farmers. Agriculture remains a backbone of Kenya's economy. It fosters employment, safeguards food security, and improves rural socio-economic conditions. The profitability of registered Seed Merchants directly influences the country's agricultural productivity. The seed sector in Kenya is features public, private and multinational firms. These companies operate in a regulated environment overseen by institutions such as KEPHIS as mandated by laws of Kenya (Cap. 326) and other agencies under the Ministry of Agriculture. In this framework, registered Seed Merchants face growing challenges as pertained to profitability, competition, counterfeiting, market access and strategic positioning for the processed and certified seeds.

Jonga (2018) observed that, maize seed companies in Kenya contend with fluctuating production costs, unpredictable rain patterns and strong rivalry from both established firms and emerging private seed companies. These conditions necessitate the adoption of costs management strategies aimed at improving operational efficiency, market penetration and profitability. As a results of the changing challenges, costs management practices have become central to the survival and growth of registered Seed Merchants.

Profitability remains a critical concern for registered Seed Merchants involved in the production of traditional and improved seed varieties. Examination of Kenya's traditional vegetable seed production systems revealed that, seed production can be profitable but margins are often constrained by high production costs, quality assurance requirements and limited economies of scale (Mvungi et al., 2020). Outcomes revealed vulnerability of small and medium registered Seed Merchants that lack the financial and technological capacity to adequately optimize production processes.

In the maize seed sub-sector that is dominating Kenya's seed market, profitability is closely linked to production efficiency and strategic resource allocation. Ndegwa and Mwangi (2024) stressed that, firms adopting costs leadership and costs differentiation achieved greater competitiveness. This advantage translated to improved returns. The study stated the importance of managing production costs and operational costs effectively. Companies manage costs as they ensure quality certified seeds and also complying to regulatory standards.

Statement of the Problem

Registered seed merchants in Nairobi city face declining profits hence effecting on net earnings stability. Seedco. Kenya Ltd net profit declined by 22.3% from KES182 million (2023) to 141.4 million (2024) due to increased production and marketing overhead costs (Seed Co International Limited Annual report 2024). Kenya Seed company's net profit also declined by 0.64% from KES 984.9 million (2023) to 978.6 million (Kenya Seed Company Limited Audited Financial Statements and Annual Report 2024). Further, Simlaw Seeds, a subsidiary of Kenya Seed company Ltd, net profit reduced by 18.8% from KES 240.5 million (2023) to 195.2 million (2024).

Registered Seed Merchants ensure food security by supplying certified and high-quality seeds to farmers (Ayieko & Olwande, 2021). Registered Seed Merchants are central to driving Kenya's agricultural value chain by ensuring the availability of quality seeds that enhance farm productivity, food security and economic growth. Despite their strategic importance, many registered Seed Merchants in Nairobi City County continue to experience fluctuating profits and rising costs. Empirical studies indicate that, the seed industry is characterized by high production costs, certification costs, and intensive marketing expenditures. Price sensitivity among farmers and increased competition from both local and multinational is also high (Jonga, 2018).

Previous research on seed companies in Kenya has mostly focused on strategic determinants of performance such as generic strategies, marketing strategies, pricing strategies, foreign market entry and competitive advantage (Koech, 2012). Seed company's profit margins are stagnating due to a consistent 7.6% annual increase in the cost of doing business (Gikera & Bula, 2023). The above studies offer evidence on how strategic positioning influences firm profitability but they pay limited attention to the effect of costs management and a central mechanism through which these strategies translate into sustained profitability. The increasing costs associated with seed certification have further complicated profitability outcomes for registered Seed Merchants (Mmboga, 2023).

Mvungi et al. (2020) confirmed that, seed production can be profitable but profit margins are affected by high input and operational costs. Profitability challenges among registered Seed Merchants are not only driven by revenue factors such as pricing or market access but also by inefficiencies in costs control measures. Empirical evidence on how specific costs management such as compliance costs management, production costs management, marketing costs management and operational costs management affect the profitability of registered Seed Merchants in Nairobi city remains limited. There is statistically significant positive correlation between costs management and profitability. The agribusinesses sector often fail not due to lack of market but due to serious cost management mistakes as shown by (Gitau, 2019).

The financial strain on the seed sector is worsened by external institutional burdens like regulatory requirements. Ochieng' and Waithaka (2022) looked into the regulatory compliance costs and net profit ratios of certified seed distributors for food crops in Kenya using an explanatory research design. They also applied ledger allocation diagnostic tests in the same study. Their findings revealed escalating statutory monitoring timelines and shifting administrative verification fees levied by state regulatory regulators. This practice also injected volatility into corporate net profit margins of up to 34.5% of the annual variance in firm's net income ratios. Their study treated these regulatory costs as un-avoidable external penalties rather than exploring internal costs mitigation strategies and failed to model these financial outcomes using ROA.

The above empirical reviews on profitability of registered Seed Merchants revealed insufficient empirical understanding of how registered Seed Merchants in Nairobi City manage costs in their value chain and how these costs management influence firm profitability. This limitation constrains seed managers, national policymakers and other stakeholders in designing adequate interventions aimed at improving the financial sustainability and competitiveness of registered Seed Merchants. This inquiry focused on Nairobi City County seed merchants, assessing how cost management practices shape profitability outcomes.

Objectives of the Study

- To determine the effect of compliance cost management on the profitability of Registered Seed Merchants in Nairobi City County, Kenya.
- To assess the effect of production cost management on profitability of registered Seed Merchants in Nairobi City County, Kenya.
- To evaluate the effect of marketing cost management on the profitability of registered Seed Merchants in Nairobi City County, Kenya
- To examine the effect of operational cost management on profitability of registered Seed Merchants in Nairobi City County, Kenya

LITERATURE REVIEW

Theoretical Review

Innovation Theory of Profit (ITP.)

The innovation theory of profit as proffered by Schumpeter (1934) states that, profits arise not just from the efficient allocation of resources but from innovations, including innovative business contributions, original business methods and visionary market approaches. These innovations can transform existing markets and create opportunities that are not explored for stakeholders. Schumpeter's (1934) innovation theory of profit posits that; profits are not simply the result of efficient resource allocation in static markets. He argued that, profits come from the activities of entrepreneurs who introduce new ideas of new products, change in production processes or transforming business models. Internal capabilities' innovations have the possibility to disrupt existing markets. Reputable businesses can be challenged to create new opportunities for economic progress.

The assumption of this theory posits that; a competitive market economy exists in a state of continuous creative destruction. This means that, entrepreneurial extra profits are inherently temporary and will inevitably be eroded over time by competition, product replication and market regularization. Absorbing these environmental shocks and insulate temporary innovation profits, subsequent strategy scholars, Teece et al. (1997) and Augier and Teece (2020) expanded Schumpeter's views into the dynamic capabilities. They discussed so to show company survival depends deeply on the continuous re-configuration and adjusting internal administrative and other expense models.

Ghemawat and Ricart (2019) observed that, organizations can use innovation profit theory to analyse how external factors affect profitability. These factors are; economic trends, competitor's move and regulatory changes. Businesses can adapt their strategies to optimize profit margins via monitoring these variables regularly. According to Jacobides et al. (2006) innovation profit theory encourages organizations to be flexible in their business models. This shows that, companies can experiment with different pricing strategies product changes and service delivery methods to find the most profitable combinations. Such adapting is important in constantly changing industries.

ITP is pertinent as it expounds how efficient cost management systems enable firms in maintaining competitiveness and profitability in a changing business context. Registered Seed Merchants in Nairobi city, cost management is a factor that influences their ability to maximize the intended profit. Seed merchants that adopt to innovated costs management approach can efficiently balance them with profits. That will enable them not to tie up capital in unnecessary stock hence avoiding shortages that disrupt processing.

The innovation theory of profit also explains the risks associated with innovation and market changes. Registered Seed Merchants that fail to take up costs management may struggle with increased operational costs or disruptions due to supply chain that is not predictable (Mwangi & Namusonge, 2020). Costs mismanagement can lead to stock obsolescence, financial losses, and reduced competitiveness. This theory

supports the idea of profitability is not constant but depends on firm's implementation of efficient costs management systems.

In this review, ITP acts as the primary theoretical anchor of dependent variable to supports and justify the choice of profitability. Seed Merchants' profitability is measured using ROA. The operational linkage between ITP and profitability is grounded in the principle that, registered seed merchants work in a changing agricultural environment with unpredictable standabilities, climate shocks and increasing input costs. In conclusion, profitability cannot be seen as a constant as reward. It rather comes from deliberate costs management systems to close profit leakages or reduce high costs. Seed merchants optimize asset utilization and safeguard their margins from erosion. This is done through adjusting internal spending regularly to enhance ROA.

Transaction Cost Economics theory (TCE)

TCE by Williamson (1981), explains the costs associated with exchanges of economic nature and transaction in the markets. According to Williamson (1981), transactions involve costs of information, contract negotiation costs, monitoring costs and the cost of enforcing those contracts. In regulated sectors with costs such as seed processing, seed testing charges, licensing fees and other quality assurance standards can be viewed as transaction costs that impacts Seed Merchants' profitability. Effective management of these compliance and regulatory expenditures can minimize transaction costs. Total operating expenses are managed hence better profits.

TCE operates on two main assumptions: the cognitive limitations of managers to foresee or contract for all future contingencies called bounded rationality. Secondly, the propensity of economic actors to act with self-interest and crafty referred to as opportunism. These behaviours create severe costs under conditions of environmental uncertainty. Economists like North (1990) and Klein (2005) expanded this classical model. They showed that, high regulatory barriers and compliance costs significantly escalate before the event (ex-ante) screening fees and ex-post monitoring expenditures. This reduces profits if left not mitigated.

Coase (1937) argued that firms exist to minimize transaction costs that would otherwise be incurred in open market. In the context of registered Seed Merchants: compliance cost management cost, production cost management and operational cost management can be viewed as internal governance mechanisms designed to control transaction costs within the value chain. Shelanski and Klein (1995) underlined that, aligning governance structures with transaction characteristics is essential for optimizing cost structures. This supports financial performance (profitability).

TCE theory is used as the theoretical anchor for compliance cost management. The linkage to this variable exists in regulated certification environment which is common in the seed sector. Registered Seed Merchants face the challenges of transaction costs. These costs are as a result of statutory monitoring timelines, licensing and seed certification fees. They are charged by government regulatory authorities. If these costs are not managed effectively, they can cause transaction frictions depleting Seed Merchants' revenue. Compliance costs management functions as an internal governance mechanism that minimizes the overall transaction costs hence better margins.

Empirical Literature Review

Shbaita (2019) study validates that, compliance costs represent a cost category that can erode company's profitability if not adequately managed. The published study remained limited to credit unions in a financial sector that is regulated. It did not explore how firms proactively manage compliance costs. Case in point, attention to financial institutions limits the generalizability of the findings. It may not be useful in non-financial sectors like agribusiness and seed production. This proposal will extend this line of inquiry and examine compliance costs management to test for their effects on profitability in the registered Seed Merchants setting.

Fitzsimmons (2018) verified regulatory cost compliances association with community banks'profitability. Employing quantitative methodological approach, the study utilized panel data and regression techniques. How compliance costs affected financial performance indicators mainly ROA, returns on equity and efficiency ratios was analyzed. The results showed higher regulatory compliance costs were negatively related to both profitability and efficiency. The study further revealed that, smaller banks bore a unequal compliance burden relative to larger institutions. This leads to reduced competitiveness and declining financial sustainability.

Oyedokun et al. (2019) investigated the cost controls and profitability relationships of selected manufacturing-oriented companies in Nigeria. A quantitative design with secondary financial data was used. Regression assessed cost control measures on profitability indicators. returns on asset and net profit margin were included. Cost controls was revealed to significantly positively affect company profitability. It was further revealed that, companies with efficient cost control systems experienced improved financial performance (profitability) despite in challenging economic conditions.

Rusdiyanto et al. (2021) in their research examined the influences of sales costs and administration and also general expenses on company's profitability. They relied on evidence from Indonesian firms. The study use of quantitative research methodology was noted. Secondary panel data sourced from firms' financial records were employed, with regression assessing sales expenses, administrative and general costs on profitability of companies. Their findings revealed, that sales costs, administrative costs and general expenses had a statistical effect on profitability of companies. Inefficient management of selling expenses was found to negatively affect profit levels. Firms that optimized these costs, achieved improved financial performance.

Azim (2025) examined cost structures' impacts on profitability for different firms. The study used cross-sectional data and regression techniques to analyzed how cost components affect firm profitability over time. Findings and conclusions revealed that, cost structure shapes profitability. Firms with balanced and strategically managed cost structures were also revealed as more robust in managing marketing costs and revealed better financial performance.

In Southeast Nigeria, Nwatu and Idoko (2020) explored how reducing operating costs affects manufacturing firms' profitability. Employing survey methodology, primary data was amassed and analysed via descriptive and regression techniques. A positive relationship was revealed amongst operating costs reduction and profitability of entities. The study recognized that, firms that effectively controlled operating expenses experienced improved profit margins and overall better financial performance. The operational costs included: utilities, maintenance, administrative costs and logistic costs. The authors concluded, that methodical operating costs management enhances efficiency. This in turn enabled companies to remain competitive in challenging economic environments.

Namadi (2023) explored the role of operational costs like outsourcing in balancing profitability and cost control in businesses' operations. A conceptual and analytical approach supported by empirical evidence from corporate organizations was used. That study verified that, externalizing support functions can markedly decrease operational expenditures. The reduction in operational costs enhanced profitability if effectively managed.

METHODOLOGY

The study adopting descriptive and explanatory cross-sectional designs. Rahi (2017) explained that, explanatory research design was crucial in clarifying causal relationships among variables. The study target population encompassed registered Seed Merchants and seed production enterprises that are registered by Kenya Plant Health Inspectorate Service (KEPHIS) as mandated by the seeds and plant varieties Act (Cap 326) of laws of Kenya and operate in Nairobi City County, Kenya. According to KEPHIS (2026) register, Nairobi City County hosts 46 registered Seed Merchants who formed the unit of analysis. Observation unit

were stratified into four sections to cover the independent variables, comprising of finance, operations, marketing, production and inventory managers. These managers were selected as units of observation. The reason being, their direct involvement in supply chain activities, having access to relevant data, authority in decision making and ability to furnish comprehensive understandings. Therefore, total target population comprised of 184 respondents derived from the 46 registered Seed Merchants in Nairobi City County. Instruments of data collection are essential for securing primary data in social studies (Zohrabi, 2013). This research employed both primary and secondary sources, with primary data derived from self-administered questionnaires incorporating open and closed formats.

Empirical model

The study employed Multiple Linear Regression analysis in order to ascertain whether changes exist between dependent variables to explanatory variables.

$Y=\beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+e$ …….Equation 1

β0 -Constant Term, (β1, β2, β3, β4) -Beta Coefficients of independent variables.
Y - Profitability (5-Year Average Return on Assets from 2021-2025) of registered Seed Merchants in Nairobi City County, Kenya
X_1 - Compliance Cost Management
X_2 - Production Cost Management
X_3 - Marketing Cost Management
X_4 - Operational Cost Management
e - Error term

FINDINGS AND DISCUSSION

Response Rate

In total, 184 questionnaires were administered to managers drawn from finance, operations, marketing, and inventory functions of the 46 seed merchants in Nairobi City County. As indicated in Figure 4.1, 155 were completed and returned (84%), while 29 were either incomplete or not returned (16%). With methodological benchmarks recognizing 70% as sufficient for generalization, the 84% response rate attained was considered robust and satisfactory for the study.

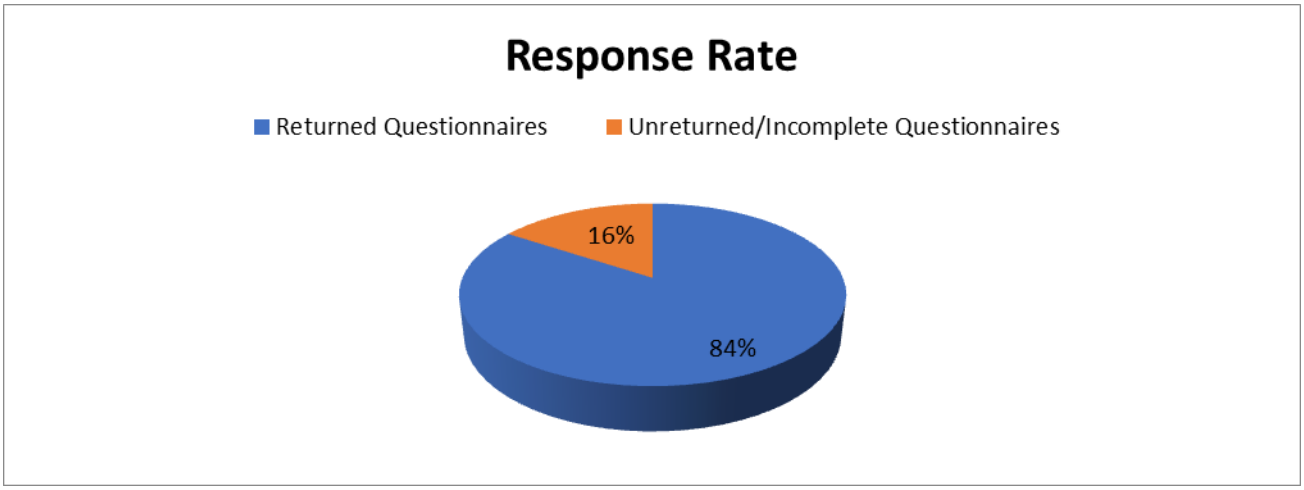


Figure 1: Response Rate.
Source: Field Data (2026)

Descriptive Statistical Analysis

Descriptive analysis on respondent scores on variable-measuring statements in terms of percentages, frequencies, mean scores and standard deviations.

Cost Management Practices

Table 1: Descriptive Statistics

Descriptive Statistics	Mean	Std Dev
Compliance Cost Management	**3.63**	**0.87**
Production Cost Management	**3.57**	**0.91**
Cost Management for Marketing and Distribution	**3.44**	**0.92**
Operational Cost Management	**3.48**	**0.91**

In the descriptive results for compliance cost management, the analysis considers amount of budget that enterprises allocate for regulatory compliance costs, track and manage compliance costs, meet compliance reporting requirements and train staff to reduce compliance related errors on time. The overall 3.63 average and a 0.87 standard deviation suggest a general consensus among the respondents with respect to the acceptance of compliance cost management practice in their companies. The results were in agreement with the empirical results of Lah and Kotnik (2022) that firms with more robust managerial structures are able to cope with compliance expenses with less productivity disruption. Likewise, the results are in line with that of Fitzsimmons (2018) who highlighted that properly addressing the cost and regulatory points of compliance adds to the organizational efficiency and financial sustainability by avoiding the unnecessary expenditure in compliance.

The descriptive analysis of production cost management practices by the registered Seed Merchants looked at aspects of the level of monitoring and control of the production costs, optimization of the manufacturing program, and the use of modern production methods and stakeholder's analysis of manufacturing costs from time to time to reduce costs. The data for production cost management among registered Seed Merchants had an average of 3.57 (SD = 0.91) summarizes enterprise perceptions, capturing respondents seemed to agree on the existence of production cost management practices within their enterprises. Results reflect a moderate consensus which means that most organizations have implemented some actions to manage costs associated with the production process even if there is a variance in the implementation of such actions in different organizations. Outcomes mirror findings of Oyedokun et al (2019) which supported that effective production cost control availed in an organization significantly enhances the profitability of an organization, and Gitau (2021) that disclosed that efficient management of production and operating costs contributes positively to the financial performance of agribusiness enterprises.

Marketing and distribution cost management practices included Marketing Budget, Monitor Distribution and Logistics costs, use appropriate & cost-effective advertising channels, Plan the Marketing and Distribution strategies to be consistent with Profitability Goals. Results showed that respondents mean in marketing and distribution cost management practices as 3.44 (0.92), implying that, participants generally agree there was implementation of marketing and distribution cost management practices in their enterprises. Outcomes mirror empirical studies by Rusdiyanto et al. (2021), who established that effective management of selling, administrative and distribution expenses enhance organizational profitability, and Azim (2025), who found that strategically managed cost structures contribute significantly to augmented fiscal performance by affirming marketing expenditures are aligned with organizational profitability objectives.

Operations cost management sought to establish how enterprises monitor and control administrative and utility costs, utilize outsourcing for non-core functions, review operational efficiency, and promote a cost-conscious organizational culture. Results showed that respondents, averaged at 3.48 (SD:0.91), which means participants generally concurred operational cost management practices have been adopted in their enterprises.

Overall, these results corroborate the Resource Based View Theory which claims that the greater the efficiency of an organization's internal working processes and resource management, the higher the performing power. Results corroborate Nwatu and Idoko (2020), whose work revealed that systematic handling of operating expense helps to increase profitability through operational efficiency. In the same way, the findings are similar to Namadi (2023) who noted that although the advantages of outsourcing may appear to be that it helps enterprises save their operational costs, they can only save operation costs when outsourcing is well-managed and handled properly, hence the parties' mixed feeling observed in the surveyed enterprises.

Firm Profitability

Table 2: Descriptive Statistics

	N	Min	Max	Mean	Std. Deviation
Net Income (KES M)	5	84.1	97.4	91.020	5.3528
Total Assets (KES M)	5	1612.0	1752.8	1679.840	56.4673
ROA (%)	5	4.80	6.04	5.4320	.49847

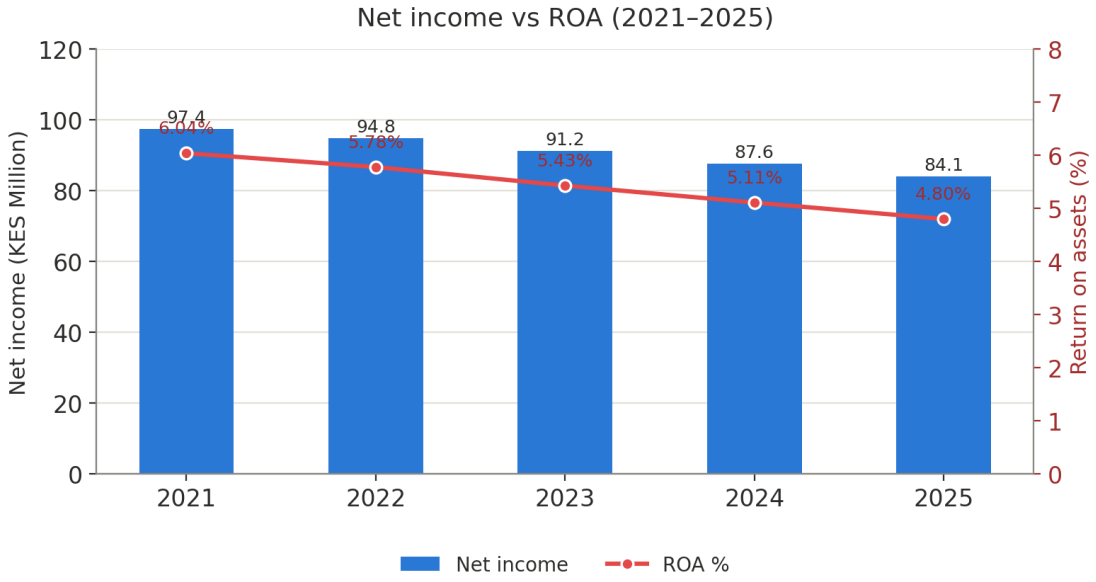


Figure 2: Trend Analysis on ROA

The outcomes in Table 2 and Figure 2 point to a firm-level efficiency problem rather than a scale problem. Registered Seed Merchants in Nairobi City County were not failing to grow, total assets expanded by approximately 8.7% over the five years, but they were failing to convert that growing resource base into proportional earnings, with net income falling by roughly 13.7% over the same period. The net effect was a 1.24 percentage point (about 20.5%) decline in ROA. This reinforces the interpretation drawn from the perception-based results in Table 4.2: cost management practices, even where implemented, appear to have had a limited effect on translating asset growth into improved returns, likely because of factors outside management's direct control such as rising compliance costs, input price inflation, and competitive pressure in the seed sector. The low variability across all three indicators (particularly total assets) further suggests that this pattern of declining efficiency was broadly consistent across the sampled firms rather than being driven by a few outliers.

Inferential Analysis

Table 3: Pearson Correlation Analysis

Pearson Correlation Analysis						
		CCM	**PCM**	**M & D**	**OCM**	**ROA**
CCM	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	155				
	Pearson Correlation	.311**	1			
PCM	Sig. (2-tailed)	.076				
	N	155	155			
	Pearson Correlation	.567**	.557**	1		
M & D	Sig. (2-tailed)	.301	.099			
	N	155	155	155		
	Pearson Correlation	.184**	.389**	.245**	1	
OCM	Sig. (2-tailed)	.101	.112	.066		
	N	155	155	155	155	
	Pearson Correlation	.532**	.519**	.659**	.635**	1
ROA	Sig. (2-tailed)	.000	.000	.000	.000	
	N	155	155	155	155	155

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Field Data (2026)

Pearson product-moment correlation test results was presented in Table 3 to analyze the relationships between the various types of cost management of compliance, production, marketing and distribution, operational, and profitability measured by ROA of the farmer cooperatives. All independent variables were positively associated with profitability, as indicated by the analysis, which means that the better a firm is in terms of them, then they would be more profitable in Nairobi City County, particularly among registered Seed Merchants. The significance value (sig.) of the relationship value among each independent variable and profitability is all below 0,01 which shows that the found relationships are significant.

Compliance cost management ($r = 0.532$, $p < 0.001$) is found to be positively and statistically significant with firm profitability. There is a relationship in this finding, that is, when companies are effective in budgeting, monitoring and controlling regulatory compliance costs, then there is a possibility that the companies will have better financial performance. Good compliance costs management helps ensure that regulatory costs are not unnecessarily excessive, penalties for non-compliance are kept to a minimum and organizational resources are optimized. This suggests that registered Seed Merchants' profitability improves from strengthening practices associated with compliance costs.

The results of the correlation for production cost management with firm profit also show a positive and statistically significant correlation ($r = 0.519$, $p< 0.001$). The positive association suggests that better management of production costs, such as controlling raw materials costs, optimizing production schedules, utilizing suitable production technology and conducting ongoing review of production costs will positively drive financial performance. The implementation of efficient production cost management will help companies minimize their production waste, use their resources effectively and optimize their production process, thereby promoting production efficiency and profitability. The relationship is a bit weaker than the one seen when considering compliance cost management, but it is still statistically significant and is also evidence of the importance of considering production efficiency for organizational performance.

A significantly high positive correlation was observed between marketing and distribution cost management and firm profitability ($r = 0.659$, $p < 0.001$) amongst all the independent variables. Such insights indicate that companies with effective cost management of marketing expenditures, control on logistics costs, and also use

of cost-efficient marketing promotional methods, link their marketing strategy to profitability targets, are likely to have better financial results. Good marketing and distribution cost control can help firms to reach customers efficiently and keep selling costs under control to maximize the returns on the investment in marketing. This relationship illustrates the existence of a significant relationship, indicating that effective distribution and marketing operations are an important factor in increasing profitability in the registered seed merchant industry.

Operational cost management has a positive and significant relationship with firm profitability ($r = 0.635$, $p < 0.001$). The results suggest that key strategies for reducing administration costs, routinely evaluating operating efficiency, and fostering a cost-aware organization positively influence the bottom line. Companies that can effectively control expenses at the point of sale are more likely to cut down on the costs that serve no purpose and boost the efficiency of the entire organization, which will again have a positive impact on profitability. This relationship is strong, reiterating the strategic need for operational cost management and stable financial performance.

Multiple Regression Analysis Output

Regression analysis results are reported here, evaluating compliance, production, marketing/distribution, and operational cost management as predictors of profitability. Model summary, ANOVA, and coefficients confirm explanatory power and test study hypotheses.

Table 4: Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.707[a]	.500	.487	7.56389

a. Predictors: (Constant), CCM, PCM, M&D, OCM

Table 4 presents the model summary for the multiple regression analysis examining the effect of compliance cost management, production cost management, marketing and distribution cost management, and operational cost management on the profitability of registered Seed Merchants in Nairobi City County, Kenya. The model yielded a correlation coefficient (R) of 0.707, indicating a strong positive relationship between the combined independent variables and firm profitability. This finding suggests that the four cost management practices collectively have a substantial association with profitability, implying that improvements in these practices are likely to be accompanied by improvements in the financial performance of registered Seed Merchants.

The coefficient of determination (R Square) was 0.500, indicating that the four predictor variables jointly explain 50.0% of the variation in firm profitability. This implies that compliance cost management, production cost management, marketing and distribution cost management, and operational cost management account for half of observed ROA changes among the registered Seed Merchants. The remaining 50.0% of variations may be attributed to exclude factors from the model, such as market competition, pricing strategies, macroeconomic conditions, managerial competence, technological innovation, access to finance and government policy. The coefficient of determination therefore demonstrates that the selected independent variables possess substantial explanatory power in predicting firm profitability.

The adjusted coefficient of determination (Adjusted R Square) was 0.487, indicating that after adjusting for the number of predictors and sample size, the model explains 48.7% of the variation in profitability. The relatively small difference between R Square (0.500) and Adjusted R Square (0.487) suggests that the regression model is stable and that the included predictor variables make meaningful contributions to explaining profitability without introducing substantial overfitting. This finding demonstrates that the model is robust and would be expected to perform similarly if applied to other registered Seed Merchants with comparable characteristics.

Table 5: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8595.717	4	2148.929	37.561	.000[b]
	Residual	8581.868	150	57.212		
	Total	17177.585	154			

a. Dependent Variable: ROA

b. Predictors: (Constant), CCM, PCM, M&D, OCM

Table 5 delineates Analysis of Variance (ANOVA) results for the multiple regression model. ANOVA determined whether the regression model, taken as a whole, provides a valid prediction of firm profitability. Results indicate the regression model is statistically significant, with an F-statistic of 37.561 and a significance value of 0.000, which is less than the conventional significance level of 0.05. These findings demonstrate that the independent variables jointly have a statistically significant influence on firm profitability.

Table 6 Coefficients

: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	15.260	3.006		5.077	.000
	Compliance Cost Management	1.521	1.254	.124	1.213	.227
	Production Cost Management	.844	1.270	.068	.665	.507
	Marketing & Distribution Cost Management	4.129	1.016	.363	4.062	.000
	Operational Cost Management	3.034	1.103	.252	2.751	.007

a. Dependent Variable: ROA

Substituting the unstandardized coefficients (B) from Table 6 into Equation regression model:

$ROA = 15.260 + 1.521X_1 + 0.844X_2 + 4.129X_3 + 3.034X_4 + \varepsilon$

The constant term ($\beta 0 = 15.260$, $t = 5.077$, $p = 0.000$) is statistically significant, implying that when all four cost management variables (compliance, production, marketing and distribution, and operational cost management) are held at zero, the predicted ROA of registered Seed Merchants would be 15.260%. Because this value is both positive and significant, it suggests that a baseline level of profitability exists that is attributable to factors outside the four cost management practices modeled here — such as pricing power, market demand, firm size, or other unmeasured operational and market factors.

The regression results produced a positive but statistically insignificant coefficient for compliance cost management ($\beta = 0.124$, $B = 1.521$, $t = 1.213$, $p = 0.227$). The study observed that compliance cost management does not have a statistically significant effect on profitability once the other cost management variables are controlled for. This suggests that compliance-related expenditures — licensing, seed certification, and regulatory reporting — function primarily as a cost of maintaining legal operating status rather than as a lever for improving financial returns. This outcome is consistent with Fitzsimmons (2018), who found that rising compliance costs tend to erode rather than enhance profitability, particularly for firms without the scale to absorb such costs efficiently. It also aligns with Shbaita (2019), who observed that compliance costs affect firm finances most severely where economies of scale are lacking.

Production cost management also produced a positive but statistically insignificant coefficient (β = 0.068, B = 0.844, t = 0.665, p = 0.507). This implies that although firms may implement cost controls in production planning and input procurement, these measures alone are insufficient to translate into measurable profitability gains, likely because the seed sector's high fixed costs, strict quality assurance requirements, input price volatility, and climatic exposure constrain the returns achievable from production efficiency alone.This result contrasts with Oyedokun et al. (2019), who found that effective production cost control significantly improved profitability among manufacturing firms, and with Gitau (2021), who reported that sound production and operating cost management enhanced financial performance among Kenyan agribusiness enterprises. The divergence may be explained by the regulated nature of the seed sector, where certification and quality standards limit the extent to which production costs can be reduced without risking non-compliance or product quality, a constraint less binding in the manufacturing and general agribusiness contexts studied by these earlier authors.

Marketing and distribution cost management yielded a positive and statistically significant coefficient (β = 0.363, B = 4.129, t = 4.062, p = 0.000). With the largest standardized beta of the four predictors, this variable is the strongest driver of ROA in the model, indicating that efficient management of promotional budgets, distribution logistics, and advertising spend translates directly into improved returns. This finding is corroborated by Rusdiyanto et al. (2021), who demonstrated that disciplined management of selling, administrative, and distribution expenses meaningfully improves organizational profitability, and by Azim (2025), who found that firms maintaining a balanced cost structure, particularly around marketing expenditure achieve superior long-term financial performance. The result positions marketing and distribution cost management as the most impactful strategic cost management practice among those examined, suggesting that Seed Merchants seeking to improve ROA should prioritize cost-efficient market reach and distribution channel management over compliance or production-focused cost interventions.

Operational cost management produced a positive and statistically significant coefficient (β = 0.252, B = 3.034, t = 2.751, p = 0.007). This indicates that disciplined management of administrative expenses, utility costs, and general resource utilization contributes meaningfully to a firm's ability to convert its asset base into returns. This result is supported by Nwatu and Idoko (2020), who found that rigorous control of operating costs improved profitability among manufacturing firms, and by Namadi (2023), who reported that efficient operational cost management practices, including strategic outsourcing and administrative cost control, positively affect organizational profitability.

CONCLUSIONS

Based on the findings from the study, it can be concluded that cost management is one of the factors that contribute to the profitability of registered Seed Merchants in Nairobi City County, Kenya. Compliance with regulations was fairly low, but production, marketing, and operational cost management was fairly high, while commercial viability, as indicated by the profit, was not high, suggesting that the enterprises need not only cost management, but also scale management to be profitable.

Given the first objective, the study findings are that compliance cost management is positively but not statistically significantly related to profitability. Budgeting for regulatory requirements, monitoring compliance costs, and making timely regulatory reports do not, on their own, enhance profitability, but do help with financial discipline by monitoring compliance costs. Compliance costs, that is, remain unpredictable costs of doing business that are predominantly directed towards achieving regulatory conformity, and not towards boosting business profitability.

For the second objective, it is revealed that production cost management has a positive effect, but it is statistically insignificant effect on profitability. The findings show that managing raw material costs, better production scheduling and new ideas about production cost expansion do give improvements in production

efficiency, but not on a big enough scale to make any big profits. However, one of the reasons for this is that the modern production technology has not been utilized much, which restricted the affectivity of production cost management on better financial performance.

In relation to the third objective, the study demonstrates that there is positive and statistically significant relationship between marketing and distribution cost management and the profitability. Good marketing budget planning, efficient logistics and distribution costs management, and profitability objective-oriented marketing activities are important factors which improve financial performance. The results show that wise utilization of marketing and distribution cost could help the registered Seed Merchant to increase profitability due to better utilization of resources and efficient market.

Following the fourth objective, operational cost management was established to positively and significantly influence the profitability. By reviewing administrative and utility costs on a regular basis, and re-evaluating operations and fostering an awareness of cost, organizational inefficiencies are also addressed, leading to better organizational performance. Optimised use of resources and an improvement in profitability is therefore important as an internal capacity of registered Seed Merchants to achieve effective operational cost management.

The study finds that overall marketing and distribution cost management, coupled with operational cost management is the main cost management practice that can significantly impact the profitability of registered Seed Merchants in Nairobi City County. Improvements in these areas, together with enhancements to the efficiency of compliance management and production cost management is likely to result in better financial performance.

RECOMMENDATIONS

Compliance management systems are recommended to be strengthened by the study for registered Seed Merchants, which recommends additional investments on continuous training on the regulations and procedures for compliance amongst staff. Investing in the capacity of employees will diminish the number of compliance errors, avoidable penalties and impacts the regulatory processes facing them have, will or should have to endure without busting budget.

Production cost management of registered Seed Merchants should be done by making more investments in modern production technologies and efficient production systems. The application of improved processing equipment, automation and modern inventory management technologies shall to minimize production inefficiencies, minimize wastage and increase productivity and return of profit in the long-run.

The study suggests that enterprises should emphasize on marketing and distribution cost management, implementing a more economical marketing promotion measure, and improve the logistics management system. By using more digital marketing platforms, optimizing distribution systems and leveraging data-based marketing analytics to make more informed marketing decisions, the cost of marketing will be lowered and the profit gained by selling into new markets will be greater.

Management of registered Seed Merchants should be institutionalized for a complete system of managing operational costs on an ongoing basis including continuous supervision of administrative costs, periodic monitoring and auditing of operations and building cost consciousness among organizations. Cautionary review of purchasing outside of the core operations should be undertaken where relevant in order to achieve a reduction in operating costs, if necessary, without compromising operational effectiveness or the quality of the service provided.

Policy makers, especially regulatory agencies involved in the seed sector, should regularly audit and update compliance procedures, as well as regulatory needs, in order to streamline procedures for certification and

reduce unnecessary compliance costs. The more streamlined regulatory frameworks would ease the financial impact of registered Seed Merchants while maintaining the quality intensions to be met in the seed industry.

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