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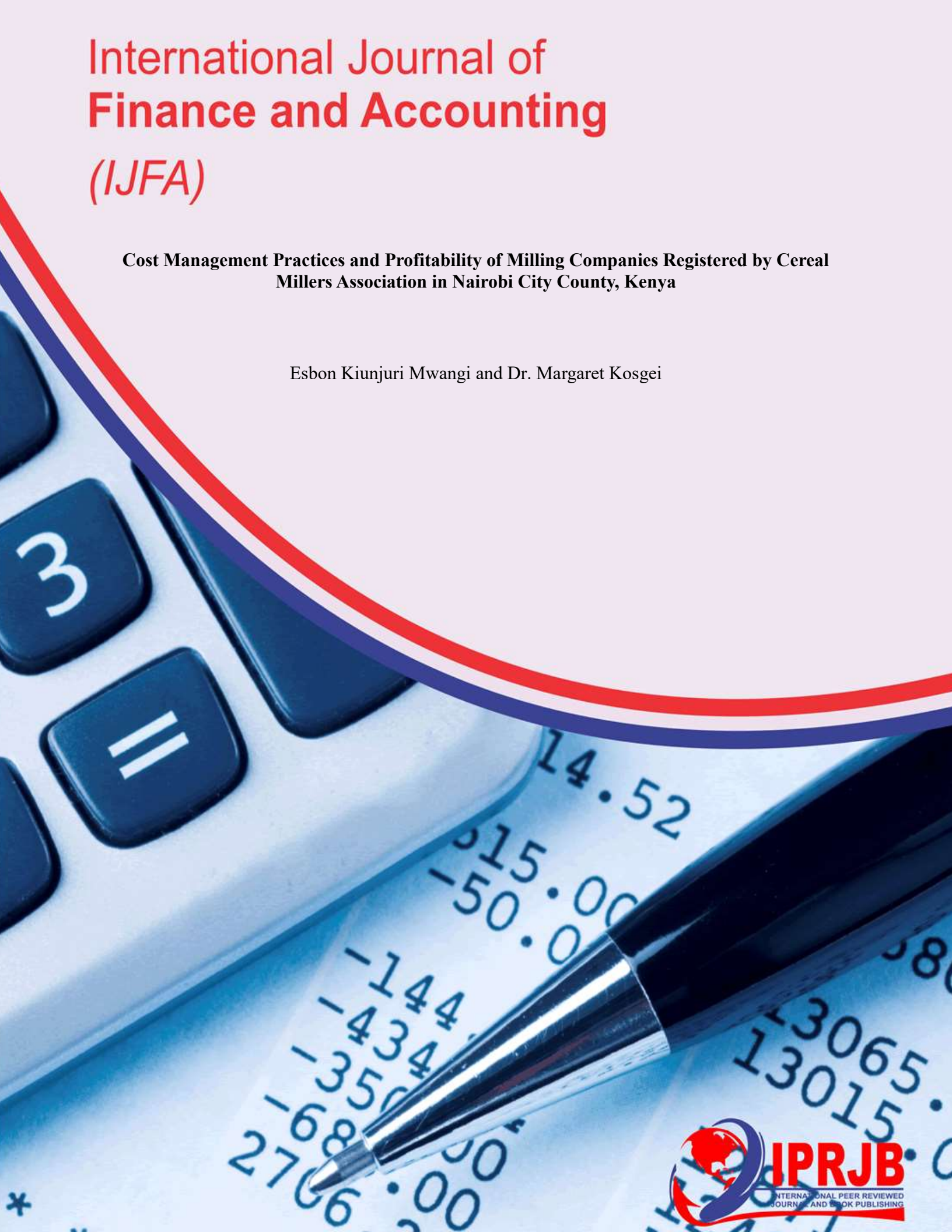
Esbon Kiunjuri Mwangi and Dr. Margaret Kosgei



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Cost Management Practices and Profitability of Milling Companies Registered by Cereal Millers Association in Nairobi City County, Kenya

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Abstract

Purpose: The objective of the study was to examine relationship between cost management practices on the profitability of milling firms in Nairobi City County, Kenya.

Methodology: The study employed a descriptive research design. The target population entailed 15 milling companies in Nairobi City County, Kenya registered under the Cereals Millers Association (CMA). A census method was also utilized to select the senior, middle and junior level managers in the selected milling companies. This research utilized a structured questionnaire to gather data from targeted participants and the data collected was analyzed using SPSS statistical software which generated descriptive and inferential statistics.

Findings: The research results revealed that direct material, direct labour, factory overhead and administrative overhead cost management practices had a negative and significant relationship with profitability. Hence, the study concluded that cost management practices have a negative and significant impact on profitability of milling companies in Nairobi city county, Kenya.

Unique Contribution to Theory, Practice and Policy: The study was guided by the theories of Transaction Cost, Resource-Based View and Profit Maximization. This research recommended that management of milling companies should continuously develop strong relationships with suppliers to negotiate better prices and ensure consistent quality and supply of materials. This can help in stabilizing costs and avoiding unexpected expenses. To increase employees' effectiveness and productivity, they should also continuously offer training and development opportunities. Policymakers in the milling industry should also advocate for comprehensive cost management training programs in all milling companies so as to ensure that employees in all levels of management are equipped with knowledge and skills necessary to implement cost-saving measures effectively.

Keywords: *Cost Management Practices, Profitability, Milling Companies, Cereal Millers Association, Nairobi County*

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INTRODUCTION

Globally, expansion of the flour milling firms has been linked to advancement of the supply-network for wheat-based raw materials. This has enabled the leading wheat farmers across the world to influence the size of the world milling market through direct exports of wheat and its finished products (Nugroho et al., 2021). A survey by the Global Flour Market and Flour Trade (2014) revealed that the global wheat production in the financial year 2013/14 was 717 million tons, this increased to 730 million tons in 2014/15 and 736 million tons in 2015/16 (Bock & Sweley, 2018). In 2015, a report from the United Nations Food and Agriculture Organization (FAO) disclosed that among European countries, Turkey and Kazakhstan are the prominent global producers and exporters of wheat and flour (Altaibaeyva et al., 2017). Ozturk (2020) also highlighted that the milling industry has been essential to supplying the region's demand for processed grains and cereals. With a focus on sustainability and efficiency, European milling companies have implemented advanced cost management practices to enhance profitability. For instance, the adoption of lean management practices among European milling companies, has resulted in improved operational efficiency and cost reduction. It has also enabled it to meet the high domestic demand of flour and pasta in export countries like Iraq, Benin, Angola, Yemen, Syria, Palestine and Venezuela (Yazici & Bilgin, 2019).

In Africa, the milling industry has been an essential industry in promoting food security and economic development (Badu-Apraku & Fakorede, 2017). According to a report by FAO (2021), the increase in production of milled products has been attributed to availability of raw materials and increased consumption rate due to the high population growth in Africa. However, milling industries in countries like South Africa, Nigeria and Tanzania faces various challenges, including fluctuating commodity prices, increasing energy costs, and rising competition in the global market (Kanojia et al.,2018). To maintain competitiveness and profitability, these milling companies have been adopting various cost management techniques, like lean manufacturing and total quality management (TQM), which had a positive contribution in optimizing costs and enhancing operational efficiency.

Moreover, the milling sector in Kenya is a vital component of the agricultural and food processing industry. According to KNBS (2017), the total milling companies in Kenya are 129 both large and medium scale. Approximately 32 milling companies are registered under the CMA with 15 milling companies in located in Nairobi county, 5 milling companies in Eldoret, 4 in Thika, 3 in Mt. Kenya region and Mombasa, 1 in Kisumu and Machakos counties respectively (Kung'u, 2017). In the recent years, the technological initiatives and efforts employed by most companies including investing in modern equipment and adopting best practices, have helped in optimizing production costs and improving their competitive edge (Josiah, 2019). However, the economic survey conducted by the KNBS (2021) revealed that some of the leading milling companies in Kenya like the Unga Group Ltd recorded a decrease in their profits before tax from 733.1 M in 2017 to 439.6M in 2018 to 485.2 M in 2020, while Mombasa Millers Ltd reported a lower market share of 27% under the maize flour category. This reduction was attributed to price instability, supply shortages of maize and wheat grains due to the adverse local weather conditions, Covid-19 related interruptions, increased global demand for milled products, rising efficiency requirements, employee anxiety, and technology use (Kiiru, 2020). As a result of these challenges, some of these

firms have considered implementing better cost management practices that will enable them to efficiently control expenses, improve profitability and enhance their overall performance (Nzuma & Kirui, 2021).

Cost Management Practices and Profitability

Hansen, Mowen and Heitger (2021) defined cost management as the process of planning and managing the costs involved in operating a business. The production costs that firms look out for when employing the cost management strategies that can be implemented, are largely categorized into fixed costs and variable costs, otherwise known as direct or indirect costs. Direct material costs refers to the overall cost incurred by the business in acquiring raw materials as well as other expenses, such as packaging, freight and storage fees, taxes, etc., which are directly linked with the manufacturing of products in a firm (Mukah, 2021). Direct labor costs constitutes of expenses related to compensating employees for their labor, including wages and additional incentives, directly linked to firm's operation activities (Al-Naser & Mohamed, 2017). In addition, manufacturing overhead costs are the other direct-factory related costs that influence the pricing strategies adopted by firms which in turn affect the sales volume and profits of a company (Udeh & Okeke, 2021). For instance, factory-overhead costs comprise of depreciation of firm's equipment, rent, property taxes, utilities, insurance, repairs and maintenance etc. On the other hand, administrative overhead costs are expenses incurred to maintain a business's operations but which are not directly connected to the production of a particular product (Liu et al., 2019).

In addition, cost management practices also involves management of the inventory costs since inventories or stocks play an important role in generating revenue to a business and directly affects its profits. It first involves knowing the needs of the business and its customers so as to avoid stocking excess inventory. It also involves controlling and monitoring inventory orders, their use and storage, along with managing finished goods that are prepared for sale (Ogundajo & Nyikyaa, 2021). According to Labunska, Petrova and Prokopishyna (2017) study, one of the major challenges that any company experiences is how to manufacture products within an acceptable cost framework while maintain quality and improving its performance. Hence, the research concluded that effective cost management should remain a continual and evolving process within the company, aiming to bolster both profitability and sustainability.

Furthermore, profitability is one of the primary goals of all milling companies and a good determinant of their financial performance. It occurs when the total revenue surpasses the total expenses within a specific reporting period. (Alarussi & Alhaderi, 2018). A study by Hagel (2021) indicated that the common measures of profitability are profits before tax and return on assets. It described profits before tax as the total profits acquired by a firm before deducting corporate tax. Whereas, ROA is a financial metric that illustrates how well businesses use their resources to attain profits and ROE evaluates a company's equity value without accounting for its liabilities (Odhiambo Riany & Wagude, 2018). Therefore, in relation to all the measures of profitability discussed in this section, the current study used ROA as the measures of profitability in milling companies in Nairobi City County, Kenya.

Statement of the Problem

Kenyan milling companies oftenly aim at producing as many goods as possible within the most cost effective way so as to maximize their profits. However, most of the milling companies have experienced shortage of supply of their key raw materials from farmers and unpredicted market conditions such as market fluctuations, inflations and increased business risks. This has resulted to increased production costs and unstable prices of their products (Mwanje,2017). For instance, one of the leading milling companies in Kenya like Unga Group Ltd recorded a decline of 10.4% in 2019 which lead to a decrease in its profits by 30% (Kiiru., 2020). conversely, in 2021 a drop of 9% in sales volume was reported by the company which resulted in a decline in profits before tax from 122.54 M to 16.743M (KNBS. 2021). According Hagel et al (2021), this decrease in profits was as a result of constrained margins brought on by rising freight costs, a weaker shilling in Kenya, and a spike in the cost of essential raw materials due to worldwide shortages.

The small-scale millers have also been highly affected with most of them being forced to shut down due to the shortage of local maize and sustainable finances for importing maize from other countries (Nzuma & Kirui, 2021). In addition, lack of the financial capacity of such firms to invest in high technology, purchasing quality maize from local farmers has also led to some of these firms being suspended by the KEBS for selling maize flour with high aflatoxins than the approved level (KEBS, 2020). On the other hand, some of the government interferences such as imposing of high taxes, high import and export duties as a way of raising more revenues, have also resulted to increased operation costs that threaten their sustainability in the competitive market (Maingi, 2017). Moreover, the many reported cases of corruption and misappropriation of allocated resources in most of these firms have also hindered the management team from achieving their goal of cost reduction while producing and selling most of their products. As a result, most of end products of milling companies are not produced within an acceptable and effective cost framework (Kung'u, 2017).

Further, despite the vital role of cost management practices in shaping how Kenyan milling enterprises function financially, there is a lack of comprehensive empirical evidence on relationship between these practices and the profitability of the sector. Existing research such as Kung'u (2017), Kiptoo (2017), Mutua and Kirui (2020) and Okita et al (2021) primarily focused on general business management principles, with limited attention given to their practical application of specific cost management practices within the unique context of milling companies in Kenya. Additionally, a study by Odhiambo (2017) in Kenya, discussed on cost extension services incurred by farmers rather than milling companies including land preparation, seed cane, harvest and transport expenses. The study area was also limited to a milling sugar company. Therefore, there is a need for an in-depth investigation that explores how specific cost management practices are adopted, implemented, and their impact on profitability of Kenyan milling companies.

Research Objectives

General Objective

To examine the relationship between cost management practices and profitability of milling companies in Nairobi City County, Kenya.

Specific Objectives

i. To establish the relationship between direct material cost management practices and profitability of milling companies in Nairobi City County, Kenya.
ii. To examine the relationship between direct labour cost management practices and profitability of milling companies in Nairobi City County, Kenya.
iii. To assess the association between factory overhead cost management practices and profitability of milling companies in Nairobi City County, Kenya.
iv. To establish the relationship between administrative overhead cost management practices and profitability of milling companies in Nairobi City County, Kenya.

Significance of the Study

This investigation contribute to practice by providing valuable insights and practical recommendations for the management of milling companies. The study served as a benchmarking tool, enabling milling companies to compare their cost management practices and profitability against industry peers. This information can help identify areas where a company may be lagging behind or where it has a competitive advantage. Management can then take steps to enhance competitiveness and improve financial performance. The study can also assist management in designing and implementing cost management initiatives that align with the specific needs and challenges of milling companies in Kenya.

The research results can inform policymakers this industry about the cost management practices that are associated with higher profitability. This knowledge can serve as a foundation for assessing the efficacy of current policies related to cost management practices in the milling industry. They can also assess whether the current policies align with the identified best practices and make necessary adjustments or improvements to enhance their impact on profitability. In addition, they can provide a guideline to develop targeted initiatives, incentives, or support mechanisms used to enhance cost management capabilities within the sector.

Further, the study also contributed to theory by validating, refining, or generating new insights and knowledge in the research field of institutional financial management. It can also enhance researchers' and readers' understanding of the underlying mechanisms, contextual factors, and causal relationships, leading to the development and advancement of theoretical frameworks and concepts in this domain. Moreover, if the findings differ from previous research, it can prompt further investigation into the factors that drive these variations and contribute to the refinement of existing theories.

LITERATURE REVIEW

Theoretical Framework

The theories that guided this research included; Transaction Cost theory, Resource-Based View theory and Profit Maximization theory.

Transaction Cost Theory

Oliver Williamson originally proposed this theory in 1979 (Celtekligil, 2020). It contends that optimal organizational structure is one that maximizes economic efficiency and minimizes transaction costs. It assumes that every transaction in an organization is associated with

organizational costs in monitoring, coordinating, and administering those transactions. The costs are incurred include bargaining, monitoring and enforcement costs. (Yousuf, 2017). According to Williamson (2016), transaction costs can be defined as the costs associated with maintaining a firm's economic structure. They can be categorized as coordination costs and production costs. He claimed that coordination costs can be differentiated from production costs so as to help an individual to reach a better informed choice between using a firm structure and sourcing from the market. Therefore, cost is an important element that organization consider when making decisions regarding business operations and its management (Hey & Morozini, 2018).

Thus, with regard to these transaction costs, Schmidt and Wagner (2019) noted that firms will prioritize on business deals that reduce coordination costs. This may involve use of innovative technological practices which is rapidly being adopted by firms in their main business operations so as to reduce transaction costs. Hey and Morozini (2018) also noted that transaction costs influence the choice between market transactions and hierarchical arrangements within organizations. This may involve identify the most efficient corporate structure for a given transaction, whether it be through market exchange or internal organization. The aim of such strategies is to minimize transaction costs and maximize efficiency through cost-effective actions and contract design. Additionally, studies by John et al., (2017); Waihenya (2018); Odhiambo (2017) also used the theory to bring out a valuable framework for understanding the costs and efficiencies associated with economic transactions. Therefore, this study applied this theory as it emphasizes on how business costs can influence the kind of business structure employed by an organization, mainly aimed at implementing cost-effective strategies to minimize costs and maximize their efficiency. Thus, this theory was useful to the study as it assesses how milling companies employ specific cost management practices to improve their profitability.

Resource-based View Theory

Greve (2021) highlighted that Jay Barney originally put up this theory in 1991. The theory postulates that resources are key to superior firm performance. Barney (1991) developed a model for identifying the qualities of organizational resources needed to generate long-lasting competitive advantage. He posited that when a resource displays VRIN (valuable, rare, imperfectly imitable, and not substitutable) characteristics, it empowers firms to attain and maintain a competitive advantage. Therefore, if firms are able to possess assets that are costly and challenging to replicate, they are able to use these resources and gain competitive advantage against their competitors (Freeman, Dmytriyev & Phillips, 2021). McGahan (2021) indicated that the RBV model originated from the field of strategic management emphasizing on profit maximization and sustainable competitive advantage on for profit business firms in the mid1980s. The model considers firms to be diversified since they have heterogenous resources which allows them to employ different resource management strategies. The application of the different management strategies is emphasized on the internal resources with an aim to determine the assets, skills and competencies that have the ability to promote superior competitive advantages on a firm (Barney, Ketchen Jr & Wright, 2021).

Therefore, this theory was relevant in this research as it emphasizes on management strategies that focus on a firm’s internal resources and in the case, cost management practices was considered as one of key internal resources of a firm. This includes the raw materials, labour, firm machines etc.

On the other hand, even though the aspect of profit maximization has not been emphasized in this study, Maury (2018) reveals that the ability of a firm to earn more profits than their competitors has a positive impact on their competitive advantage. This indicates that a key element influencing a firm's competitive edge is profitability.

Profit Maximization Theory

This theory was postulated by Hall and Hitch in 1975 (Sathish, 2019). It stipulates that the aim of every firm is to maximize profits. Thus, the theory assumes that profitable firms can maximize their profits through charging higher prices on their good and services while reducing their production costs. This is made possible through their ability to easily access more resources than their competitors. The theory also assumes that firms make rational and efficient decisions so as to make the most of available opportunities and resources and maximize their profits. Therefore, firms will choose a business strategy with the lowest production costs despite the possibility that other options might have lower overall costs or better overall benefits (Dow, 2018).

The application of this theory in the economics and business field has encouraged researchers to formulate profit maximization formulas that can be employed to ascertain the quantity of output and input, along with the profits achievable by a particular company (Becker, Michael & Michael, 2017). This depends on the type of business. The profits are derived from the discrepancy between the company's expenses and earnings. It is assumed that profits can be maximized both the immediate and distant futures while organizations' demand and costs are known with certainty (Van Der Linden & Freeman, 2017). This theory will be pertinent in this study as it emphasizes that firms choose a business strategy that maximizes its profit and reduces its production costs. In addition, the assumption that firms with easy access to more resources can reduce their production costs as well as charge higher prices to their clientele in order to maximize profits, was found relevant as it shows there is an association between managing costs and increasing firms' profits.

Empirical Review

Doorasamy (2019) study examined effects of implementing Material Flow Cost Accounting (MFCA) framework method as a deciding tool in the logistics on overall success of sugar industry in South Africa. Panel data was obtained from six sugar milling firms in South Africa. It also utilized random effect regression model and panel auto-regressive distributive lag (P-ARDL) estimating. The research found that transportation and loading delays are some of the factors that cause sucrose losses and have negative impact on farmer yields due to the decrease in sugarcane. There was also a positive association between resource efficiency and material flow cost accounting. Therefore, it was concluded that MFCA implementation process was effective since it leads to a rise in resource efficiency especially in cleaner production. Nonetheless, this study's population was quite limited since it involved six companies dealing with only sugar manufacturing. In addition, the challenge of using the P-ARDL estimating technique is that it has a high chance of encountering multicollinearity and autocorrelation cases among the variables. To fill the identified research gaps the study targeted the different milling companies in Nairobi City County producing different commodities and used the multiple regression model.

Amladi (2017) study examined how HRM practices affected the success of US industrial companies in California. Study participants included the largest Fortune 500 companies from a

range of industries, including the milling sector. Employing a cross-sectional research design, the study unveiled that upholding a flexible workforce notably affects the performance of manufacturing firms. In addition, HR managers' adoption of digital transformation significantly and favorably affects profitability and market competition. However, the findings of this study were too generalized since the study area covered other companies other than milling companies. Hence the study consisted of a conceptual and geographical gap which this study aimed to fill by restricting its results to the milling companies in Nairobi City County.

The study conducted by Iliemena and Amedu (2019) examined the impact of conventional costing methods on the profitability of manufacturing firms in Edo State, Nigeria. The target population constituted of 99 selected manufacturing companies in Benin city and the managers of these firms filled the questionnaires. The findings indicated that standard costing systems positively and significantly affected cost reduction and profitability of the selected manufacturing firms. Hence, the research recommended that manufacturing companies incorporate and consistently employ standard costing within their accounting systems. This integration aims to ensure the efficient management of resources, effectively control costs, and enhance profitability. Nonetheless, on the measures of profitability, the study also failed to investigate on the ROA. To delimit the identified research gaps, this study limited its findings to the profitability of milling companies and especially its ROA.

Achieng (2017) research sought to determine influence of cost management techniques on performance of United Millers in Kisumu County, Kenya. The focus group consisted of 23 respondents selected using purposive sampling technique from the finance and operations department in united millers. The findings showed a substantial connection between revenue growth in Kenyan milling enterprises and factory overhead cost control techniques. Specifically, efficient allocation and utilization of assets, factory overhead resources, effective cost control measures, and strategic decision-making pertaining to factory overhead costs were found to have a positive contribution on its profits. This study was found to have a scope gap as its study area was limited to the united millers in Kisumu county while the present study focused on milling companies in Nairobi City County.

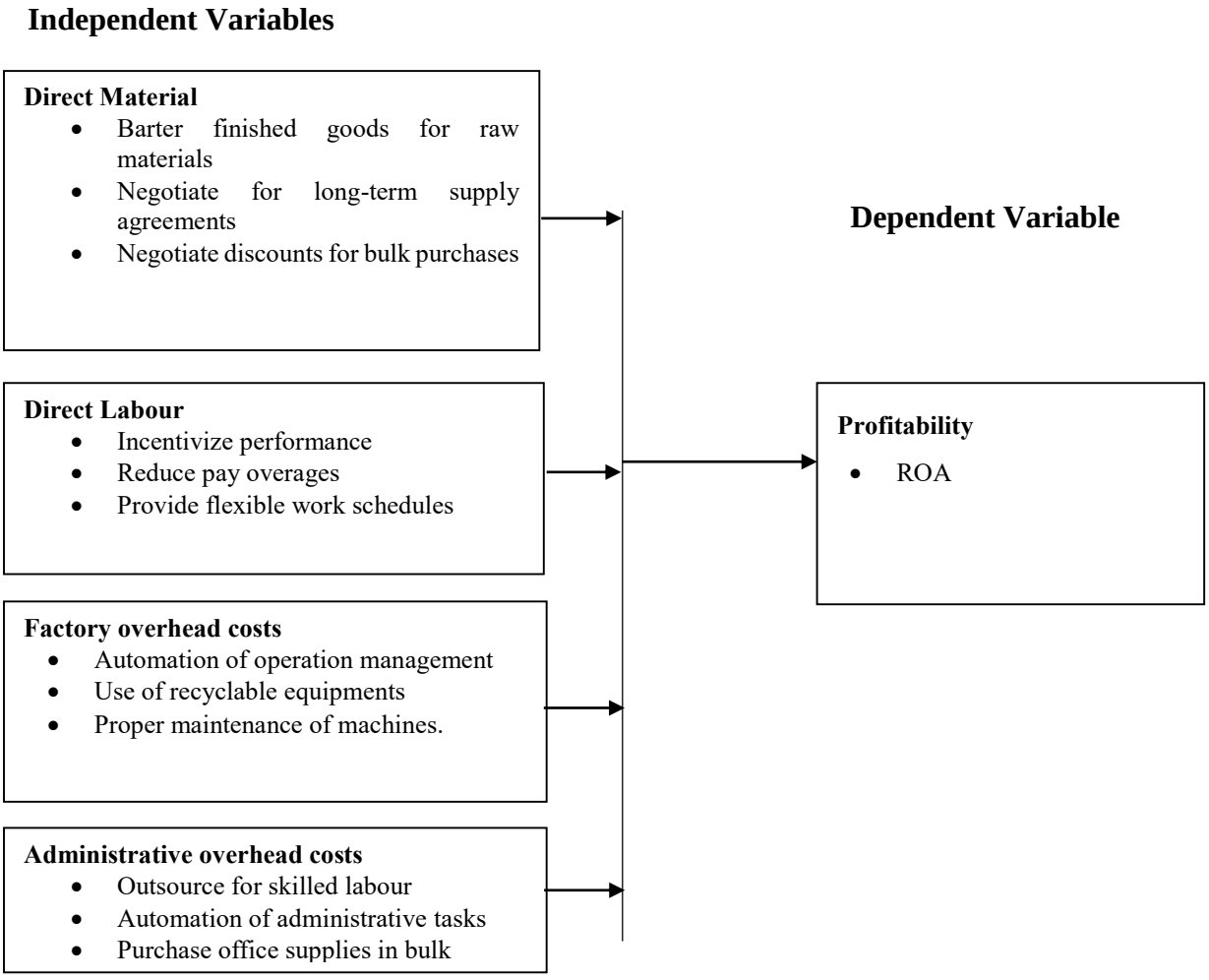
Odhiambo (2017) study also examined the effects of cost extension services on profitability of sugar millers in Sony Sugar Company Ltd, Kenya. The researcher used a sample of 150 employees gathered data using primary data collection tools. This findings showed that land preparation costs, seed cane The results revealed that land preparation supply costs, gathering and transportation costs had a negatively impacted profitability. While cane maintenance costs positively and significantly affected profitability. Nevertheless, this study was limited to one milling company and the use of purposive sampling technique which is prone to research bias and small target population. To delimit these limitations, the current study targeted more milling companies and use the census sampling method.

Sikuku (2014) study investigated the impact of Enterprise Resource Planning (ERP) systems on financial outcome of sugar companies in Kenya. It utilized descriptive research design and purposively targeted three sugar firms. Data collected from 27 respondents through interview schedules were analyzed using statistical analysis technique. The findings demonstrated a highly significant and favorable correlation between sugar companies' financial success and ERP.

Particularly, streamlined administrative processes, efficient resource allocation, and cost-conscious decision-making were found to positively impact profitability. This study consisted of a scope gap since its study area was limited to sugar firms that were located in the western region while the present study area was milling companies in Nairobi county.

Gitau (2021) study also explored how Kenyan agricultural firms performed in relation to cost management techniques. The financial performance indicator was Return on Investment (ROI). The study targeted four agribusiness enterprises in Homabay, Busia, Bungoma and Siaya counties and employed a descriptive panel research design. For data analysis, panel regression models were employed after secondary data collecting forms were utilized to acquire the data. The research confirmed that cost management practices have an effect on ROI. Thus, the study recommended that it is essential for all farmers who own agribusinesses to receive adequate training on efficient cost management practices. The research area differed with that of the current study and are significantly not related. On the other hand the performance indicator was ROI while that of the current study was ROA.

Conceptual Framework



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METHODOLOGY

This research utilized a descriptive research design as it allows a research to use varying research methods to describe characteristics or behaviors of a particular population without manipulating variables and establish casual relationship (Siedlecki, 2020). As a result, the design worked well for this study since it allowed the researcher to address the research problem in greater detail and establish the relationship between the study variables. It is also a relatively simple and straightforward research design, making it suitable for researchers with limited resources or time constraints (Shala, 2017). The target population comprised of 14 milling companies in Nairobi City County, Kenya registered under the Cereals Millers Association (CMA) (See Appendix IV) . The study utilized a census approach to gather information from senior, middle and junior level managers at the selected companies. Moreover, it also used structured questionnaires which was designed and arranged in accordance with the research questions to guarantee that it is suitable for the study topic. Additionally, the data collected was analyzed using SPSS which was a preferred statistical software to generate descriptive and inferential statistics. The descriptive statistics included percentages, means and standard deviation. The inferential statistics included correlation analysis and a regression model to establish the association between cost management practices and profitability of milling companies in Nairobi City County, Kenya.

RESULTS AND DISCUSSION

Response Rate

The researcher distributed 45 questionnaires to the selected managers in milling companies in Nairobi county. Out of the 45 questionnaires, 41 were returned, while 4 were not. This yielded a response rate of 91.11% which was in line with the recommended response rate of over 70%. (Mugenda & Mugenda, 2003)

Table 1: Response Rate

Response Rate	Frequency	Percentage
Returned Questionnaires	41	91.11
Unreturned Questionnaires	4	8.89
Total	**45**	**100**

Direct Material Cost Management Practices and Profitability

The descriptive results on direct material cost management practices disclosed that a high proportion of respondents (above 85%) that their firms deploy direct material cost management practices including bartering finished goods for raw materials, supply-chain partnerships, negotiations of long-term supply agreements, use of many suppliers and purchase of raw materials in large-scale to reduce production costs of the company. The additional secondary data also revealed that the high standard deviation also suggests a high variability in the size of milling companies, production volumes and pricing strategies for the companies' inputs.

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Table 2: Direct Material Cost Management Practices

Statements	Strongly Disagree	Disagree	Moderately agree	Agree	Strongly Agree	Mean	Std Dev
Bartering finished goods for raw materials reduces the production costs of the company.	7.32%	7.32%	19.51%	39.02%	26.83%	3.71	1.17
The company participates in supply chain partnerships which enable them barter finished goods for raw materials.	4.88%	7.32%	29.27%	31.71%	26.83%	3.68	1.11
Supply chain partnerships promotes negotiations for long-term supply agreements.	9.76%	7.32%	24.39%	29.27%	29.27%	3.61	1.26
Negotiations for long-term supply agreements ensures there is no shortage of raw materials in the company.	4.88%	7.32%	29.27%	31.71%	26.83%	3.68	1.11
The company utilizes many suppliers which promotes price negotiations.	9.76%	2.44%	31.71%	31.71%	24.39%	3.59	1.18
The use of different suppliers enables the company to improve their product value.	4.88%	4.88%	36.59%	21.95%	31.71%	3.71	1.12
The company purchases raw materials in large scale so as to benefit from supplier's discounts.	9.76%	4.88%	19.51%	24.39%	41.46%	3.83	1.3
The company is located near its supplier of raw materials so as to reduce the transportation costs of raw materials.	4.88%	9.76%	19.51%	36.59%	29.27%	3.76	1.14
Average						**3.70**	**1.17**

According to the regression results in table 3, 39.5% of profitability changes can be explained by direct material cost management techniques. It also implied that direct material cost management practices was a suitable predictor of profitability among milling companies. The ANOVA findings revealed that the F-statistic of 44.383 > critical f of 3.982 and p-value 0.000 which was < 0.05 signified that the regression model for direct material cost ratio and ROA was statistically significant. In addition, the regression coefficient results also revealed that direct material cost management practices are negatively and significantly related to the profitability of milling companies (β= -24.582; p=0.000). It also demonstrates that reduction in direct material cost management practices can result in a decrease in profitability by 24.582 units.

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Table 3: Regression Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.628a	0.395	0.386	1.745527		
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
	Regression	135.228	1	135.228	44.383	0.000
	Residual	207.187	68	3.047		
	Total	342.415	69			
		Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**
		B	Std. Error	Beta		
	(Constant)	10.112	0.774		13.073	0.000
	Direct Material Cost Ratio	-24.582	3.69	-0.628	-6.662	0.000

Direct Labour Cost Management Practices and Profitability

The descriptive data on direct labour cost management practices showed respondents (over 75%) accepted that their companies employ direct labour management practices such as task-oriented work schedules, flexible work shifts with enough employees, setting a standard of the overtime hours for its employees, annually reviewing the salaries and allowances of its employees to align with their needs, improving employee wellness offering adequate off-days and sick leaves and providing bonuses and commission payments for employees who met or surpass their set targets. Similarly, results on direct labour cost ratio also showed that there was a variation in the size of milling companies, wage rates and efficiency in labour utilization.

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Table 4: Direct Labour Cost Management Practices

Statements	Strongly Disagree	Disagree	Moderately agree	Agree	Strongly Agree	Mean	Std Dev
The company engages the employees in task-oriented work schedules that emphasize on timely completion of tasks.	9.76%	4.88%	24.39%	34.15%	26.83%	3.63	1.22
The company engages its employees in flexible work shifts rather than the 8-hour working schedule per day.	7.32%	17.07%	34.15%	26.83%	14.63%	3.24	1.14
The company has set a standard of the overtime hours that each employee should work in a week.	12.20%	4.88%	17.07%	31.71%	34.15%	3.71	1.33
The company gives ample time for rest between the different work shifts.	4.88%	4.88%	31.71%	41.46%	17.07%	3.61	1
The company ensures that there are enough employees per each work shift so as to avoid paying more overages.	4.88%	7.32%	26.83%	31.71%	29.27%	3.73	1.12
The company annually reviewing the salaries and allowances of its employees and aligns them to their needs.	14.63%	4.88%	24.39%	41.46%	14.63%	3.37	1.24
The company has improved employee wellness through offering adequate off-days and sick leaves.	4.88%	9.76%	29.27%	24.39%	31.71%	3.68	1.17
The company provides bonuses and commission payments for employees who met or surpass their set targets.	9.76%	9.76%	12.20%	36.59%	31.71%	3.71	1.29
Average						**3.59**	**1.19**

Regression findings in table 5 revealed that practices related to direct labor cost management account for 26.3% of variations in profitability. Additionally, it also suggests that milling companies' profitability may be reliably estimated by their direct labor cost management strategies. They also showed that the regression model for direct labour cost ratio and ROA was statistically significant. This is as per F-statistic=24.317 > 3.982 and p= 0.000 < 0.05. The results in table 4.20 also established that showed that the profitability of milling firms is negatively and statistically substantially correlated with direct labor cost management strategies (β=-27.19; p=0.000). It indicates that a unit drop in direct labor cost control procedures may result in a 27.19 unit drop in profitability.

Table 5: Regression Findings

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.513a	0.263	0.253	1.925906		
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
	Regression	90.195	1	90.195	24.317	0.000
	Residual	252.22	68	3.709		
	Total	342.415	69			
		Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**
		B	Std. Error	Beta		
	(Constant)	8.565	0.73		11.736	0.000
	Direct Labour Cost Ratio	-27.19	5.514	-0.513	-4.931	0.000

Factory Overhead Cost Management Practices and Profitability

Descriptive findings indicated that more than 85% of respondents agreed that their companies engage in factory overhead management practices including investing in robotics technology, investing in training its staff and acquiring the necessary training requirements, investing in subsidiary recycling plant, conducting regular inspections on its machines and ensuring that machine replacement is done on time so as to prevent cases of breakdowns during operations. Consequently, additional data on factory overhead cost ratio also revealed that there is a variability in size of milling companies and efficiency in overhead management practices.

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Table 6: Factory Overhead Cost Management Practices

Statements	Strongly Disagree	Disagree	Moderately agree	Agree	Strongly Agree	Mean	Std Dev
The company invests in robotics technology that enable automation of the procurement and supply chain practices.	2.44%	9.76%	26.83%	31.71%	29.27%	3.76	1.07
The company invests in training their staff on how to use robotics technology in procurement and supply chain practices.	4.88%	7.32%	26.83%	46.34%	14.63%	3.59	1.00
The company also invests financially to purchase the necessary training requirements needed to make the training programs effective.	2.44%	4.88%	24.39%	31.71%	36.59%	3.95	1.02
The company invests in subsidiary recycling plant which transform recyclable products to new improved products.	7.32%	7.32%	26.83%	24.39%	34.15%	3.71	1.23
The company invest in training their staff on how to use recyclable products to produce new improved products.	4.88%	7.32%	21.95%	39.02%	26.83%	3.76	1.09
The company also invests financially in sourcing for the best training materials to educate their employees on the use of recyclable plants.	4.88%	7.32%	21.95%	39.02%	26.83%	3.76	1.09
The company conducts regular inspections on its machines so as to reduce the repair and maintenance costs.	2.44%	7.32%	19.51%	31.71%	39.02%	3.98	1.06
The company ensures that machine replacement is done on time so as to prevent cases of breakdowns during operations.	4.88%	7.32%	26.83%	31.71%	29.27%	3.73	1.12
Average						**3.78**	**1.09**

The regression findings disclosed that changes in factory overhead cost management practices constitute 23% profitability changes. It also meant that factory overhead cost management practices was a good predictor of profitability. The F-statistic of 20.28 and p-value of 0.000 from the ANOVA table demonstrated that the regression model used for factory overhead cost ratios and ROA was statistically significant. The regression coefficient results also found that there exists a negative and substantial correlation on factory overhead cost management practices and profitability of milling companies (β=-48.56; p=0.000). It also implied that a unit decrease in factory overhead cost management practices can lead to a corresponding decrease in profitability by 48.56 units.

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Table 7: Regression Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.479a	0.23	0.218	1.96945		
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
	Regression	78.661	1	78.661	20.28	0.000
	Residual	263.754	68	3.879		
	Total	342.415	69			
		Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**
		B	Std. Error	Beta		
	(Constant)	8.207	0.718		11.423	0.000
	Factory Overhead Cost Ratio	-48.56	10.783	-0.479	-4.503	0.000

Administrative Overhead Cost Management Practices and Profitability

The descriptive results on administrative overhead cost management practices disclosed that surveyed participants (over 78%) agreed that their companies deploy administrative overhead cost management practices such as outsourcing for key administrative tasks and highly skilled staff, automation of repetitive administrative tasks, investing in purchasing automated equipments and training their staff to use them, investing in buying bulk office supplies, effectively budgeting and keeping track of expenses and sourcing for alternative supplies. Additionally, more information on administrative overhead cost ratio revealed that there was a variability in the size of milling companies and complexity of administrative operations.

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Table 8: Administrative Overhead Cost Management Practices

Statements	Strongly Disagree	Disagree	Moderately agree	Agree	Strongly Agree	Mean	Std Dev
The company outsource for the key administrative tasks which can be carried out outside its vicinity.	9.76%	12.20%	29.27%	36.59%	12.20%	3.29	1.15
The company outsources for highly skilled staff who are competent in their work implying less mistakes in their tasks.	4.88%	9.76%	24.39%	26.83%	34.15%	3.76	1.18
The company has automated most of its repetitive administrative tasks.	7.32%	9.76%	21.95%	34.15%	26.83%	3.63	1.2
The company has invested financially in acquiring the automated equipments for use by their employees.	4.88%	7.32%	19.51%	43.90%	24.39%	3.76	1.07
The company invest in training their staff on how to use automated equipments so as to improve their work efficiency.	7.32%	7.32%	34.15%	24.39%	26.83%	3.56	1.18
The company invest in buying bulk office supplies so as to reduce daily office expenses.	7.32%	7.32%	24.39%	34.15%	26.83%	3.66	1.17
The company budgets effectively and keeps track of all its office expenses.	7.32%	9.76%	17.07%	34.15%	31.71%	3.73	1.23
The company sources for alternative supplies so as to benefit from the discounts they offer in office supplies.	4.88%	7.32%	24.39%	41.46%	21.95%	3.68	1.06
Average						**3.63**	**1.16**

The regression summary results established that techniques for managing administrative overhead costs account for 31.8% of variations in profitability. It also meant that among milling enterprises, administrative overhead cost management techniques was a good indicator of profitability. The F-statistic of 31.761 and p-value of 0.000 as shown in the ANOVA table revealed that the regression model used for administrative overhead cost ratio and ROA was significant in statistical terms. The regression coefficients also demonstrated a highly significant and negative relationship between the profitability of milling enterprises and administrative overhead cost management strategies (β= -213.06; p=0.000). It also suggested that there is a possibility of a 213.06 unit drop in profitability for every unit drop in administrative overhead cost management techniques.

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Table 9: Regression Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.564a	0.318	0.308	1.852664		
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
	Regression	109.014	1	109.014	31.761	0.000
	Residual	233.401	68	3.432		
	Total	342.415	69			
		Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**
		B	Std. Error	Beta		
	(Constant)	9.381	0.783		11.985	0.000
	Administrative Overhead Cost Ratio	-213.058	37.805	-0.564	-5.636	0.000

CONCLUSION AND RECOMMENDATIONS

Conclusion

The research concluded that there is a comparatively high proportion of the milling companies in Nairobi city county, Kenya that deploy the four assessed cost management practices and these practices impact their profitability. It also concluded that direct material, direct labour, factory overhead and administrative overhead cost management practices are negatively and significantly associated with profitability of milling companies. Further, it was also established that a unit reduction in management technique linked to direct material cost, direct labour cost, factory overhead cost and administrative overhead cost can result in profitability reduction by 15.075 units, 6.724 units, 12.543 units and 102.09 units respectively.

Recommendations

Managerial Recommendations

Milling businesses need to continuously engage in applying lean manufacturing principles to minimize waste and optimize the use of materials, thereby reducing overall costs. They should also continuously develop strong relationships with suppliers to negotiate better prices and ensure consistent quality and supply of materials. This can help in stabilizing costs and avoiding unexpected expenses. They should also invest in advanced workforce management systems to streamline workflows, reduce unnecessary tasks, reduce overtime expenses and improving overall labor efficiency. Moreover, they should also implement better performance-based incentives to motivate employees that particularly align the interests of employees with the company's profitability goals. They should also invest in energy-efficient machinery and practices to reduce utility costs and preventive maintenance programs to reduce the likelihood of equipment breakdowns and costly repairs. They should also consistently adopt digital tools and software to automate routine administrative tasks such as payroll, invoicing, and inventory management, so as to reduce labor costs but also minimizes errors and improves efficiency. Additionally, they should also regularly offer opportunities for education and growth for staff members to become more productive and efficient.

Policy Recommendations

Policymakers in the milling industry should advocate for comprehensive cost management training programs in all milling companies so as to ensure that employees at all managerial levels possess the necessary expertise and abilities necessary to implement cost-saving measures effectively. They should also enforce better policies that encourage the adoption of modern technologies and automation to improve efficiency in cost management. This could include tax incentives, grants, or subsidies for milling companies that invest in cost management software, energy-efficient machinery, and automated systems for administrative tasks. They should also comprehensively work with the management of milling companies to establish standardized cost management frameworks and guidelines across the industry to ensure consistency and efficiency in cost management practices. They should also implement policies that support flexible cost structures, allowing milling companies to adjust costs in line with business activity levels and market conditions.

Theoretical Contribution

This study utilized a multi-theoretical approach that provided a comprehensive framework for understanding how various cost management practices influence profitability. The study validated that reducing various transaction costs directly contributes to profitability. In addition, the research findings demonstrated that leveraging unique resources and capabilities like bartering finished goods for raw materials, improving its employees wellness and needs, investing in robotics technology and training its staff, within milling companies can enhance competitive advantage and profitability. Additionally, this study results also indicated that companies employing robust cost management practices achieve higher profit margins, supporting the theory's fundamental premise. Additionally, the study generates new insights by identifying specific cost management practices that are particularly effective in the milling industry, thus contributing practical knowledge that can guide future research and industry norms.

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