



Effect of Cost Management Strategies on the Profitability of Manufacturing Firms: A Case Study of Sulfo Rwanda Industries Ltd

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Abstract: This study examined the effect of cost management strategies on the profitability of manufacturing firms, focusing on Sulfo Rwanda Industries Ltd, Rwanda. Specifically, it assessed inventory cost management, labor cost management, and overhead cost management. The study was guided by Cost Theory, Resource-Based View (RBV) Theory, and Systems Theory and adopted a descriptive and correlational research design using a mixed-methods approach. The target population comprised 146 employees, with 138 receiving questionnaires and eight management staff participating in interviews. Of the questionnaires distributed, 125 were successfully returned, representing a 90.6% response rate, while all eight management staff participated in interviews. Data were collected through questionnaires, interviews, and documentary review. Quantitative data were analyzed using SPSS version 25 through descriptive statistics, Pearson correlation, and multiple regression, while qualitative data were analyzed thematically. Results showed significant positive correlations between profitability and inventory cost management ($r = 0.630$), labor cost management ($r = 0.523$), and overhead cost management ($r = 0.493$), all at $p < 0.01$. Regression results showed that inventory cost management ($\beta = 0.489$) and overhead cost management ($\beta = 0.369$) significantly improved profitability, while labor cost management ($\beta = 0.104$, $p = 0.210$) was insignificant. The model explained 54.5% of profitability variation. The study recommends strengthening inventory planning, monitoring, budgeting, overhead control, cost allocation, workforce planning, and employee training.

Keywords: Cost Management Inventory Management; Labor Cost, Overhead Costs, Profitability, Manufacturing Firms

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1. Introduction

For manufacturing companies around the world to become more profitable, efficient, and sustainable, cost management techniques are crucial. Businesses may decrease waste, optimize resource utilization, control wasteful spending, enhance production processes, and boost performance with the help of effective techniques. Better managerial decision-making and competitive advantage are supported by strategies including activity-based costing, target costing, budgetary control,

forecasting, and lean management, especially in erratic markets (Horngren et al., 2024; Kaplan & Atkinson, 2025). Strategic planning incorporates advanced costing systems, performance monitoring, financial forecasting, lean manufacturing, just-in-time inventory systems, and activity-based management in developed manufacturing economies like the US, Germany, and Japan. Research suggests that businesses that use contemporary cost management techniques can outperform those that primarily use old accounting methods in terms of efficiency and profitability (Bhimani et al., 2023; Drury,

2024). Similarly, China's industrializing manufacturing sector has adopted lifecycle costing, strategic cost reduction, and process reengineering to control production and overhead costs while strengthening competitiveness and sustainability (Li & Sun, 2023; Chen et al., 2024).

Because manufacturing companies in Africa face economic and operational challenges such as inflation, currency fluctuations, supply-chain interruptions, high input costs, infrastructure constraints, and unstable energy prices, cost management is becoming more and more crucial. To enhance resource allocation, production planning, pricing, and performance, businesses in developing economies employ budgetary management, variance analysis, target costing, activity-based costing, procurement optimization, and strategic cost reduction (Abor & Quartey, 2024; Oladipo, 2024). Systematic budgeting, cost tracking, effective procurement, and production-cost management have all been linked to enhanced financial performance and resilience in Western Africa (Ogunleye & Akinlabi, 2023; Adegbite, 2024).

Strategic resource allocation, cost-reduction initiatives, ongoing expense monitoring, and structured cost controls all contribute to increased profitability and operational efficiency in Eastern Africa, especially in Kenya and Uganda, according to new research. Despite resource limitations, these strategies assist manufacturing companies in reducing waste, adjusting to shifting market conditions, and weathering economic shocks (Nyang'oro & Mwangi, 2021; Oketch, 2020).

Cost management has become more significant in Rwanda as a result of industrialization and economic development programs. Cost accounting, budgetary control, and strategic cost reduction can enhance financial performance, according to data from SMEs. However, there is still a lack of research on big manufacturing companies. Although Sulfo Rwanda Industries Ltd., a manufacturing business, has used cost management strategies to keep costs under control, maximize output, and preserve profitability, there is little empirical data to support these strategies' effects on financial results. In order to close this gap, this study looks at profitability and cost management techniques in Rwanda's manufacturing industry (Stevenson, 2024; Uwizeyimana, 2022).

1.2 Statement of problem

Because they promote spending control, effective resource usage, waste reduction, wise decision-making, and increased profitability, cost management techniques are crucial for manufacturing companies (Drury, 2023; Horngren et al., 2025). Businesses can control manufacturing costs while preserving product quality and competitiveness through efficient budgeting, inventory management, spending monitoring, and cost reduction.

Despite these advantages, Rwandan manufacturing companies nonetheless have to contend with growing production and operating expenses that jeopardize their viability (Isaro, 2024). The costs of raw materials, transportation, energy, and other production inputs are rising for Sulfo Rwanda Industries Ltd. Financial performance and resource efficiency may be further diminished by inefficient production planning, expense management, and inventory control. As a result, the company can experience lower profit margins, cash flow issues, limited growth, and decreased competitiveness. The National Institute of Statistics of Rwanda (2025) showed relatively poor industrial growth, which further highlights ongoing sectoral issues.

Cost control and profitability are positively correlated, according to earlier research. Cost control, budgetary management, variance analysis, expenditure monitoring, resource allocation, and strategic management can enhance financial performance, according to data from Ghana, Nigeria, Uganda, and Rwanda (Abu & Quartey, 2023; Oladipo, 2022; Nyang'oro & Mwangi, 2024; Wibabara & Njenga, 2023). However, little research focuses on Rwanda's major manufacturing companies, especially Sulfo Rwanda Industries Ltd. Previous research has mostly concentrated on SMEs or more general financial management techniques. Therefore, by analyzing how cost management techniques impact Sulfo Rwanda Industries Ltd.'s profitability, this study closes the contextual and empirical gap.

1.3 Objectives

1.3.1 General Objective

The general objective of this study was to examine the effect of cost management strategies on the profitability of manufacturing firms, with specific reference to Sulfo Rwanda Industries Ltd.

1.3.1 Specific Objectives

The study was guided by the following specific objectives:

- i. To examine the effect of inventory cost management on the profitability of Sulfo Rwanda Industries Ltd.
- ii. To assess the effect of labor cost management on the profitability of Sulfo Rwanda Industries Ltd.
- iii. To evaluate the effect of overhead cost management on the profitability of Sulfo Rwanda Industries Ltd.

1.4 Research Hypotheses

The study tested the following null hypotheses:

H₀₁: Inventory cost management has no significant effect on the profitability of Sulfo Rwanda Industries Ltd.

H₀₂: Labor cost management has no significant effect on the profitability of Sulfo Rwanda Industries Ltd.

H₀₃: Overhead cost management has no significant effect on the profitability of Sulfo Rwanda Industries Ltd.

2. Literature Review

This chapter covers conceptual review, theoretical frameworks and empirical studies in relation to the research variables. It also presents the conceptual framework and emphasizes the research gap that the study addresses.

2.1 Conceptual Review

2.1.1 Cost management

In order to increase productivity and accomplish strategic goals, cost management is methodically planning, measuring, managing, and cutting organisational expenses. It promotes resource optimisation, waste reduction, competitiveness, profitability, and well-informed decision-making in manufacturing companies. Activity-based costing, target costing, standard costing, and budgetary control are some of the strategies that assist track spending and enhance resource allocation. Additionally, productivity, sustainability, and long-term competitive advantage are all improved by strategic cost management (Bhimani et al., 2023; Chen et al., 2024; Drury, 2023; Horngren et al., 2024; Kaplan & Atkinson, 2025).

2.1.2 Inventory cost management

In order to maintain effective inventory levels, inventory cost management entails managing and optimizing ordering, holding, storage, and stock-out expenses. Practices like Just-in-Time (JIT), Economic Order Quantity (EOQ), and inventory control systems lower waste, storage costs, and production interruptions in manufacturing companies. Profitability, cash flow, resource utilization, and operational efficiency are all enhanced by effective inventory management. Stock monitoring, decision-making, competitiveness, and long-term sustainability are further improved by contemporary technology and data analytics (Christopher, 2021; Heizer et al., 2023; Lysons & Farrington, 2022; Monczka et al., 2022).

2.1.3 Labor cost management

In order to match labour costs with organisational goals, labour cost management entails planning, managing, and optimising employee-related costs, such as wages, benefits, and salaries. Effective labour planning, performance-based pay, scheduling, and time management increase productivity in manufacturing companies while cutting down on idle time and needless overtime.

Efficiency, profitability, resource allocation, competitiveness, and sustainable growth are further improved by automation, training, and workforce analytics (Armstrong, 2021; Dessler, 2022; Noe et al., 2021; Snell & Bohlander, 2021).

2.1.4 Overhead cost management

Planning, keeping an eye on, and managing indirect expenses including utilities, rent, administration, maintenance, and depreciation are all part of overhead cost management. By using activity-based costing, cost allocation, and overhead budgeting, manufacturing companies can increase their profitability and cost efficiency. Keeping an eye on overhead costs aids in finding inefficiencies, enhancing pricing choices, and allocating resources as efficiently as possible. Cost control, operational effectiveness, financial performance, competitiveness, and long-term sustainability are all further strengthened by technology and data analytics (Drury, 2023; Garrison et al., 2022; Hilton & Platt, 2021; Kaplan & Atkinson, 2021).

2.1.5 Profitability of manufacturing firms

The ability of a business to make money in relation to its costs, expenses, and invested capital is referred to as profitability. Indicators like net profit margin, return on equity, and return on assets are used to gauge it. Profitability is influenced by price, technology, resource allocation, efficient cost control, and production efficiency. Strong profitability makes it possible for businesses to grow, reinvest, draw on capital, weather economic downturns, and stay competitive. Therefore, long-term organisational success, resilience, and financial stability are all supported by sustained profitability (Atrill & McLaney, 2021; Brigham & Ehrhardt, 2021; Gitman & Zutter, 2022).

2.2 Theoretical Review

2.2.1 Cost Theory

Cost Theory explains how firms analyze, manage, and control costs in relation to production and output. Originating from Marshall's economic work, the theory incorporates fixed and variable costs, marginal costs, and economies of scale (Pindyck & Rubinfeld, 2022). It helps firms minimize costs, optimize production, and improve profitability through informed pricing, budgeting, and resource allocation. Therefore, Cost Theory provides a relevant foundation for understanding how cost management strategies influence profitability and financial performance (Mankiw, 2021; Salvatore, 2020).

2.2.2 Resource-Based View (RBV) Theory

Barney (1991) established the Resource-Based View (RBV) hypothesis, which highlights that organisations can get superior performance and a competitive advantage through valuable, uncommon, unique, and non-substitutable resources (Jenny & Terry, 2024). Operational efficiency is increased by resources including knowledgeable workers, technology, financial resources, and efficient management. Cost management skills improve profitability, minimise inefficiencies, maximise resources, and maintain competitiveness in manufacturing companies (Barney & Clark, 2007; Grant, 2024; Wernerfelt, 2024).

2.2.3 Systems Theory

According to systems theory, an organization is a networked system whose parts cooperate to achieve shared objectives. It was created by Bertalanffy and places a strong emphasis on interaction, coordination, integration, and feedback amongst organisational components (Bertalanffy, 2020; Keane, 2022). Labour, inventory, and overhead cost management are all interrelated in manufacturing companies. When these procedures are effectively coordinated, inefficiencies are decreased, resource utilisation is improved, and profitability is increased. In order to comprehend how integrated cost management affects organisational performance, Systems Theory offers a comprehensive framework (Checkland, 2021; Skyttner, 2025).

2.3 Empirical Review

2.3.1 Inventory cost management and Profitability of manufacturing firms

Stevenson and Sum (2021) discovered that JIT and EOQ inventory techniques lower holding costs and boost profitability on a worldwide scale. • and Weber (2020) shown how lean methods and automated inventory systems improve productivity and financial results. Li and Sun (2022) found that demand forecasting and real-time monitoring have a beneficial impact on profitability in China. In a similar vein, Mwangi and Muturi (2023) discovered that Kenyan financial performance is enhanced by efficient stock control. Uwizeyimana (2022) found that structured inventory management increases profitability and decreases waste in Rwanda. However, there are also

gaps in knowledge about major industrial enterprises, firm size, and developing-country environments.

2.3.2 Labor cost management and Profitability of manufacturing firms

Delery and Roumpi (2023) discovered that effective workforce allocation and performance-based compensation boost productivity and profitability on a worldwide scale. Lean production and less labour inefficiencies improve Japan's financial performance, as demonstrated by Nakamura and Ohashi (2019). Sharma and Gupta (2021) discovered that staff monitoring and training boost labour productivity and profitability in India. In a similar vein, Mwakalila and Kahyarara (2022) documented the benefits of performance management and workforce planning in Tanzania. Habimana (2023) discovered that labour cost controls, performance evaluation, and training enhance profitability in Rwanda. Nevertheless, little study focuses on big industrial companies as Sulfo Rwanda Industries Ltd.

2.3.3 Overhead cost management and Profitability of manufacturing firms

According to Anderson and Dekker (2022), activity-based costing enhances profitability, transparency, and cost allocation on a global scale. According to Shields and Young (2020), regular cost monitoring and overhead planning improve productivity and long-term financial viability. Rahman and Hassan (2021) found that preventative maintenance and energy-saving technology increase profitability in Malaysia. In a similar vein, Tesfaye and Gebremedhin (2022) discovered benefits from cost monitoring and budgeting in Ethiopia. According to Nyirahabimana (2024), structured overhead controls lower wasteful spending and boost profitability in Rwanda. Nevertheless, only a small amount of study focuses on big industrial companies as Sulfo Rwanda Industries Ltd.

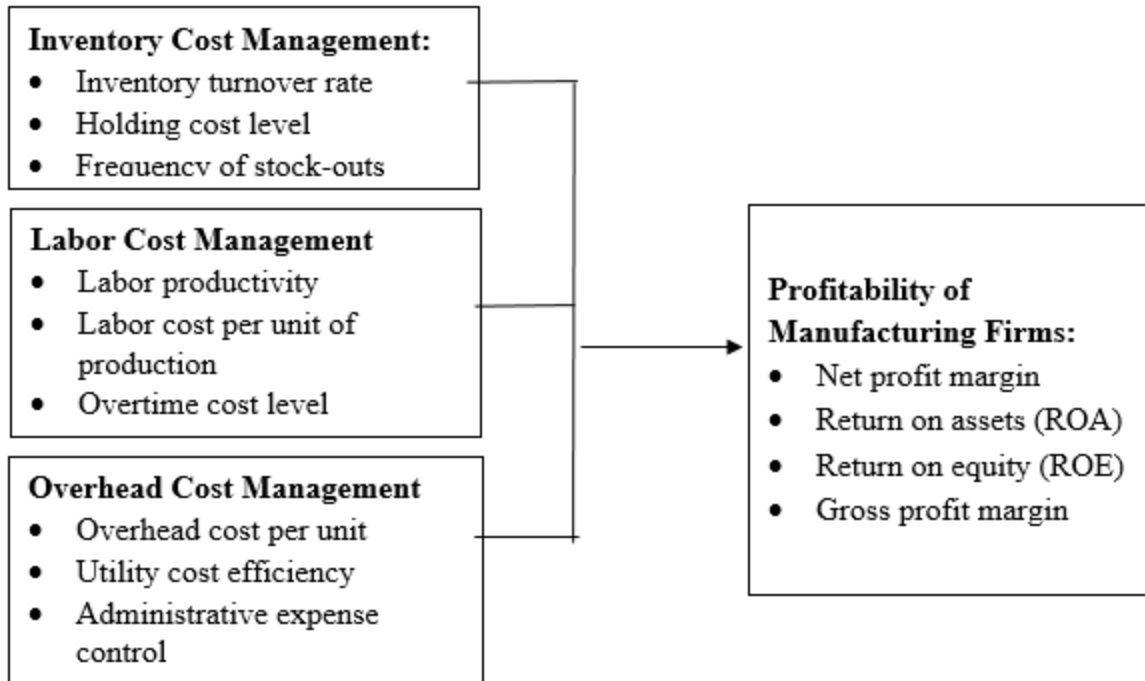
2.4 Conceptual Framework

The framework shows how inventory, labor, and overhead cost management indicators collectively influence manufacturing profitability, measured through net profit margin, ROA, and ROE.

Independent variable

Dependent variable

Cost Management Strategies



Source: Researcher, 2026

2.5 Research Gap

Studies that are now available typically show that profitability and inventory, labour, and overhead cost management are positively correlated. Nevertheless, a lot of research looks at these aspects independently, which limits our comprehension of how they work together (Anderson & Dekker, 2022; Delery & Roumpi, 2023). Due to small sample sizes and a regional focus, there are both methodological and contextual gaps (Shields & Young, 2020; Tesfaye & Gebremedhin, 2022). This study fills a vacuum in the literature by focusing on large industrial enterprises in Rwanda (Habimana, 2023; Nyirahabimana, 2024).

3. Methodology

The study adopted a descriptive and correlational research design to describe cost management practices and examine their relationships with profitability. The target population comprised 230 employees of Sulfo Rwanda Industries Ltd, including 12 management staff, 18 finance and accounting staff, 15 procurement staff, 53 production staff, and 132 operations staff. Using Yamane's (1967) formula at an appropriate sampling error, a sample of 146 respondents was selected. Proportionate allocation produced 8

managements, 11 finance and accounting, 10 procurements, 34 productions, and 83 operations respondents. Stratified sampling and simple random sampling were used to ensure representation and minimize selection bias.

Both primary and secondary data were collected. Primary data were obtained from selected employees, while secondary data were obtained through company reports, financial statements, budgets, policy documents, books, journals, and other relevant publications. Data collection instruments included structured questionnaires, interview guides, and documentary review. The questionnaire contained closed-ended and Likert-scale items measuring inventory cost management, labor cost management, overhead cost management, and profitability. Interviews with managers and senior staff provided additional qualitative insights.

A pilot study involving 15 respondents, approximately 10% of the target population and excluded from the final sample, was conducted to identify unclear questions and improve the instruments. Content validity was assessed through expert and supervisor review using the Content Validity Index (CVI). The questionnaire obtained a CVI of 0.92, while the interview guide obtained 0.91, giving an

overall CVI of 0.92, exceeding the acceptable threshold of 0.70. Reliability was tested using Cronbach's Alpha in SPSS version 25. Inventory cost management recorded 0.841, labor cost management 0.812, overhead cost management 0.857, and profitability 0.833, with an overall coefficient of 0.836, confirming satisfactory internal consistency.

Quantitative data were coded, entered, and analyzed using SPSS. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize demographic characteristics and study variables, with results presented in tables, charts, and graphs. Inferential analysis employed Pearson correlation analysis to determine the strength and direction of relationships between cost management strategies and profitability. Multiple regression analysis assessed the individual and combined effects of inventory, labor, and

overhead cost management on profitability, using coefficients, p-values, and R-squared values. The regression model was

$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \varepsilon$. Qualitative interview data were analyzed thematically through coding, categorization, and identification of major themes.

Finally, ethical principles were observed through obtaining research permission, informed consent, voluntary participation, confidentiality, anonymity, responsible data handling, and honest reporting

4. Results and Discussion

4.1 Descriptive Statistics

Table 1: Descriptive Statistics of Inventory Cost Management

Statements	N	Mean	SD
The company maintains an efficient inventory turnover rate.	125	3.80	.989
The organization effectively controls holding costs associated with inventory.	125	4.47	.666
There are minimal occurrences of stock-outs that disrupt production.	125	4.36	.766
Inventory levels are carefully planned to avoid overstocking or understocking.	125	3.44	.723
The company uses effective systems to monitor inventory.	125	4.47	.735
Aggregate Mean and Standard Deviation	125	4.11	.989

Source: Field Data (2026)

With an overall mean of 4.11, the results show that inventory cost management at Sulfo Rwanda Industries Ltd. was generally successful. Inventory monitoring and holding-cost control had the highest mean ratings ($M = 4.47$), with minimising stock-outs coming in second ($M = 4.36$). Inventory planning had the lowest mean score ($M = 3.44$), indicating a need for improvement, whereas inventory turnover was good ($M = 3.80$). Overall, efficient

resource use and operational effectiveness were facilitated by inventory turnover, holding-cost control, stock-out reduction, and inventory monitoring. By lowering needless inventory-related expenses and production interruptions, these procedures also enhanced profitability. The results emphasise that efficient inventory management capabilities boost cost effectiveness, financial performance, and competitiveness, supporting both Cost Theory and Resource-Based View Theory.

Table 2: Level of Agreement on Labor Cost Management

Views of Respondents	N	M	SD
Employees demonstrate a high level of productivity.	125	4.38	0.663
The company controls labor cost per unit of production.	125	4.29	0.714
Overtime costs are properly monitored and minimized.	125	4.17	0.786
Employees are efficiently utilized in production processes.	125	4.41	0.648
Training programs improve employee performance.	125	4.45	0.619
Workforce planning reduces unnecessary labor costs.	125	4.34	0.689
Aggregate Score		4.34	

Source: Field Data (2026). Key: M = Mean, SD = Standard Deviation.

With an overall mean of 4.34, the results show that labour cost management at Sulfo Rwanda Industries Ltd. was generally successful. Overtime cost management had the lowest mean (M = 4.17), while training programs had the highest mean (M = 4.45), followed by effective employee utilisation (M = 4.41) and employee productivity (M = 4.38). Additionally, labour cost control and workforce planning were rated highly. Overall, increased operational efficiency and decreased needless labour expenses were the results of efficient training, workforce planning,

employee productivity, utilisation, and labour cost control. The outcomes of the interviews, which focused on workforce planning, overtime monitoring, performance evaluation, and training, supported these conclusions. The results, which emphasise efficient labour management for organisational success and profitability, are in line with earlier empirical research and support Cost Theory and Resource-Based View Theory.

Table 3: Level of Agreement on Overhead Cost Management

Views of Respondents	N	M	SD
The company controls overhead cost per unit effectively.	125	4.28	0.714
Utility costs such as electricity and water are well managed.	125	4.34	0.692
Administrative expenses are properly controlled.	125	4.22	0.741
Budgeting is used to manage overhead costs.	125	4.43	0.638
Monitoring reduces unnecessary overhead expenses.	125	4.38	0.661
Cost allocation improves decision-making.	125	4.31	0.687
Aggregate Score		4.33	

Source: Field Data (2026)- Key: M = Mean; SD = Standard Deviation.

With an overall mean of 4.33, the results show that Sulfo Rwanda Industries Ltd.'s overhead cost control was generally successful. The highest mean was obtained for budgeting (M = 4.43), followed by utility cost management (M = 4.34) and spending monitoring (M = 4.38). Administrative expense control had the lowest mean (M = 4.22), whereas cost allocation (M = 4.31) and overhead cost control per unit (M = 4.28) both scored highly. Overall, cutting wasteful spending, strengthening financial

discipline, and increasing profitability were made possible by efficient budgeting, spending monitoring, utility management, administrative cost control, and cost allocation. Results from interviews supported these conclusions. The results, which emphasize efficient overhead management for better financial performance, are in line with earlier empirical data and support Cost Theory and Resource-Based View Theory.

Table 4: Level of Agreement on Profitability of Manufacturing Firms (N = 125)

Views of Respondents	N	M	SD
The company's net profit margin has increased over time.	125	4.29	0.701
Return on assets has improved.	125	4.24	0.734
Return on equity is satisfactory.	125	4.18	0.782
Cost reduction strategies increase profits.	125	4.46	0.618
Operational efficiency improves financial performance.	125	4.41	0.646
The company maintains sustainable profitability.	125	4.35	0.671
Aggregate Score		4.32	

Source: Field Data (2026). Key: M = Mean; SD = Standard Deviation.

With an overall mean of 4.32, the results show that Sulfo Rwanda Industries Ltd. maintained satisfactory profitability. The methods that reduced costs had the highest mean (M = 4.46), followed by sustainable profitability (M = 4.35) and operational efficiency (M = 4.41). Return on equity had the lowest mean (M = 4.18), while net profit margin (M = 4.29) and return on assets (M

= 4.24) were also rated highly. Overall, respondents concurred that better financial performance was a result of efficient cost control, planning, resource utilization, operational efficiency, and spending control. These outcomes were supported by qualitative findings that emphasized budgeting, cost control, effective resource use, and ongoing monitoring. The results emphasize integrated

cost management for long-term success and are consistent with Cost Theory, Resource-Based View Theory, and Systems Theory.

4.2 Inferential Statistics

Table 5 Pearson Correlation Matrix

		X1	X2	X3	Y
Inventory Cost Management (X1)	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	125			
Labor Cost Management (X2)	Pearson Correlation	.657**	1		
	Sig. (2-tailed)	.000			
	N	125	125		
Overhead Cost Management (X3)	Pearson Correlation	.197*	.263**	1	
	Sig. (2-tailed)	.028	.003		
	N	125	125	125	
Profitability (Y)	Pearson Correlation	.630**	.523**	.493**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	125	125	125	125

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

*. Correlation is significant at the 0.05 level (2-tailed).

The Pearson correlation results indicate that all three cost management strategies were positively and significantly associated with profitability at the 1% significance level. Inventory cost management exhibited the strongest positive correlation with profitability ($r = .630$, $p < .001$), followed by labor cost management ($r = .523$, $p < .001$) and overhead cost management ($r = .493$, $p < .001$). These findings suggest that improvements in inventory control, labor management, budgeting, expenditure monitoring,

and resource utilization are associated with enhanced profitability at Sulfo Rwanda Industries Ltd. Inventory cost management demonstrated the strongest relationship, highlighting its importance to financial performance. The relatively low correlations among the independent variables indicate distinct dimensions of cost management and suggest no serious multicollinearity concerns for subsequent regression analysis.

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.738 ^a	.545	.534	.24502

a. Predictors: (Constant), Inventory Cost Management, Labor Cost Management, Overhead Cost Management

The model shows good explanatory power, with $R^2 = 0.545$ and adjusted $R^2 = 0.534$. Thus, inventory cost management, labor cost management, and overhead cost management jointly explain 54.5% of the variation in profitability, while 45.5% is explained by other factors. Overall, the findings confirm that cost management strategies significantly influence the profitability of Sulfo Rwanda Industries Ltd.

Effective management of inventory, labor, and overhead costs enables the firm to control unnecessary expenses, improve operational efficiency, optimize resource utilization, and strengthen financial performance. Therefore, strengthening cost management practices is essential for sustaining profitability and improving the firm's competitiveness.

Table 7: ANOVA Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.704	3	2.901	48.328	.000 ^b
	Residual	7.264	121	.060		
	Total	15.968	124			

a. Dependent Variable: Profitability of Manufacturing Firms

b. Predictors: (Constant), Inventory Cost Management, Labor Cost Management, Overhead Cost Management

The ANOVA findings show that the regression model is statistically significant ($F = 48.328$, $p < 0.001$). Significant explanatory power is confirmed when regression variation surpasses residual variation. Thus, Sulfo Rwanda Industries Ltd.'s profitability is greatly impacted by

inventory cost control, labor cost management, and overhead cost management. The results attest to the fact that efficient cost control improves financial performance and profitability.

Table 8: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.284	.318		-.894	.373
	Inventory Cost Management	.470	.078	.489	6.011	.000
	Labor Cost Management	.090	.071	.104	1.261	.210
	Overhead Cost Management	.414	.071	.369	5.810	.000

a. Dependent Variable: Profitability of Manufacturing Firms

The regression results indicate that inventory cost management had a positive and statistically significant effect on profitability ($\beta = 0.489$, $t = 6.011$, $p < 0.001$). Overhead cost management also had a positive and statistically significant effect ($\beta = 0.369$, $t = 5.810$, $p < 0.001$). However, labor cost management had a positive but statistically insignificant effect on profitability ($\beta = 0.104$,

$t = 1.261$, $p = 0.210$). Inventory cost management was the strongest predictor, followed by overhead cost management, while labor cost management had the weakest influence. Overall, effective inventory and overhead cost management significantly contribute to improving the profitability of Sulfo Rwanda Industries Ltd.

Table 9: Summary of Hypothesis Testing

Hypothesis	Beta (β)	Sig.	Decision
H01: Inventory cost management has no statistically significant effect on the profitability of Sulfo Rwanda Industries Ltd.	0.489	0.000	Rejected
H02: Labor cost management has no statistically significant effect on the profitability of Sulfo Rwanda Industries Ltd.	0.104	0.21	Not Rejected
H03: Overhead cost management has no statistically significant effect on the profitability of Sulfo Rwanda Industries Ltd.	0.369	0.000	Rejected

Source: Field Data (2026)

5. Conclusion and Recommendations

5.1 Conclusions

The study concludes that inventory cost management has a positive and statistically significant effect on the profitability of Sulfo Rwanda Industries Ltd, thereby achieving the first objective. The significant effect ($\beta = 0.489$, $t = 6.011$, $p < 0.001$) indicates that effective inventory planning, monitoring, turnover management, holding-cost control, and reduction of stock-outs contribute substantially to improved profitability. Inventory cost management was also the strongest predictor among the three cost management strategies. The company should therefore strengthen inventory control practices to minimize unnecessary costs and improve resource utilization.

Regarding the second objective, the study concludes that labor cost management has a positive but statistically insignificant effect on the profitability of Sulfo Rwanda Industries Ltd ($\beta = 0.104$, $t = 1.261$, $p = 0.210$). Although effective workforce planning, employee training, productivity, and employee utilization may improve operational efficiency, their independent contribution to profitability was not statistically significant. Labor cost management should therefore be integrated with other cost management practices to generate stronger financial outcomes.

Concerning the third objective, the study concludes that overhead cost management has a positive and statistically significant effect on the profitability of Sulfo Rwanda Industries Ltd ($\beta = 0.369$, $t = 5.810$, $p < 0.001$). Effective budgeting, expenditure monitoring, utility-cost control, administrative-cost management, and appropriate overhead allocation significantly contribute to reducing unnecessary expenses and improving profitability. Overhead cost management was the second strongest predictor after inventory cost management.

Overall, the study concludes that inventory cost management and overhead cost management are significant drivers of profitability, while labor cost management has a positive but insignificant independent effect. The statistically significant regression model ($F = 48.328$, $p < 0.001$) and $R^2 = 0.545$ demonstrate that the three cost management strategies jointly explain 54.5% of the variation in profitability. Sulfo Rwanda Industries Ltd should therefore adopt an integrated cost management approach, with particular emphasis on inventory and overhead cost control, to sustain profitability, operational efficiency, and long-term competitiveness.

5.2 Recommendations

The recommendations, which are based on the study's findings and conclusions, are meant to assist Sulfo Rwanda Industries Ltd.'s management in enhancing cost control procedures and raising profitability.

1. Management should take an integrated strategy to cost control because the study indicated that labor cost management has a good but statistically insignificant impact on profitability, whereas inventory cost management and overhead cost management have a considerable impact.
2. Because inventory cost management had the biggest impact on profitability, the study suggests that management prioritize improving inventory processes. To maintain ideal inventory levels, the business should enhance inventory planning, fortify monitoring systems, carry out frequent inventory audits, and employ precise demand forecasting methods. Additionally, management should reduce holding expenses and stock-outs while increasing inventory turnover. These steps can increase production efficiency, maximize resource utilization, lower needless inventory-related costs, and boost profitability.
3. The study suggests sustained investment in efficient workforce planning, employee training, performance evaluation, and efficient employee utilization in relation to labor cost management. Enhancing staff productivity and reducing needless overtime can improve operational efficiency, even while labor cost management did not have a statistically significant independent effect on profitability. Additionally, management should make sure that labor management procedures support inventory and overhead cost management strategies and take into account suitable performance-based reward schemes. The whole performance of the organization can be improved with this integrated strategy.
4. The study suggests that management improve budgeting, spending monitoring, utility-cost control, administrative-cost management, and overhead cost distribution in order to better manage overhead costs. To find wasteful spending, the business should create reasonable budgets and periodically compare actual and projected expenditures. To enable the prompt detection and rectification of cost inefficiencies, stronger internal financial controls should be put in place. Monitoring overhead costs effectively will support sustained profitability, enhance resource utilization, lower needless operating costs, and encourage financial discipline.

5. In general, Sulfo Rwanda Industries Ltd. ought to give inventory and overhead cost control top priority while consistently enhancing labor management procedures. The business will be able to keep costs under control, boost financial performance, increase operational effectiveness, and sustain long-term competitiveness in the manufacturing industry with an integrated cost management strategy.

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