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Aminadabu Jean Pierre & Dr. Eugenia Nkechi Irechukwu

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Outsourcing Influences and Performance of Manufacturing Companies in Rwanda a Case of Ameki Color

^{*1}Aminadabu Jean Pierre & ²Dr. Eugenia Nkechi Irechukwu

¹Masters Student, Mount Kenya University

²Senior Lecturer, Mount Kenya University

*Email of Corresponding Author: aminac07896@gmail.com

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Abstract

The study assessed the influence of outsourcing on the performance of manufacturing companies in Rwanda, using Ameki Color Ltd as a case study. Specifically, it examined the effects of cost reduction, human capital, and operational efficiency on organizational performance. A descriptive research design was adopted. Data were collected from 85 respondents selected through purposive sampling using questionnaires and documentary review. Descriptive and inferential statistical techniques, including Pearson correlation and multiple regression analysis, were employed to analyze the data. The study found that outsourcing significantly influences the performance of Ameki Color Ltd. Cost reduction showed a strong positive relationship with performance ($r = 0.825, p < 0.01$). Similarly, human capital was strongly associated with organizational performance ($r = 0.852, p < 0.01$), while operational efficiency also demonstrated a strong positive relationship with performance ($r = 0.820, p < 0.01$). The study concluded that effective outsourcing practices contribute substantially to improved organizational outcomes. The study suggested that manufacturing companies should adopt strategic outsourcing practices to reduce costs, enhance access to skilled human resources, and improve operational efficiency, thereby strengthening organizational performance. This study contributes to the limited empirical literature on outsourcing and organizational performance in Rwanda's manufacturing sector by providing evidence from Ameki Color Ltd and highlighting key outsourcing dimensions that drive performance improvement.

Keywords: Outsourcing, Performance, Manufacturing companies, Rwanda, Ameki color ltd.

1.0 Introduction

Firms generally outsource those functions that are resource intensive, that is either high labor or capital costs, those that require specialist competencies, those that are dependent on the rapidly changing technology as well as those that require expensive investment. Outsourcing is a strategy of acquiring outside resources to boost performance of a company, for instance during 1772-1823 North America signed an agreement between the United States (U.S), Canada, Mexico and the development of the European Market for outsourcing of specialized staff in manufacturing industries and raw materials. Emanating from these changes, organizations have acquired opportunities such as achieving greater economies of scale, selling in wide range markets, and improvement of quality. In the 1960s, a wave of outsourcing system led to the establishment of various regional institutions across developing regions, to reduce the costs, fastest service delivery and build the competitiveness of companies (Calantone, Stanko, 2017). The study done by Knight (2018), in Cameroon revealed that outsourcing leads to cost savings by leveraging lower labor and production costs in other regions which is a powerful strategy to building a competitive advantage for processing companies. In Kenya, Organizations can access complementary capabilities from external providers where they can gain no advantage from performing such processes internally (Irina, Liviu, and Ioana, 2018). Outsourcing is a management strategy through which a company assigns some non-core functions to more specialized, more effective and more efficient service providers such that the organization can be left to perform and concentrate with the core business activities.

In Rwandan perspective, various manufacturing companies use outsourcing as strategies of having specialized people, getting advanced technology as well and providing quality products in wide markets. Outsourcing has become one of the most important approach a business should adopt due to the increase of globalization and through this strategy, organizations can acquire a competitive advantage if products or services are implemented more effectively by outside service providers (Yang, Seongcheol, Changi & Ja-Won, 2021). For an organization to be able to adapt on market change and complications of anticipating the direction of such changes means that they have to emphasize on their core competencies and abilities. Gamage (2019) assert that, performance is measured by showing how efficient the organization is in use of resources to achieve its objectives or goals. It is the measure of fulfillment accomplished by individual, team, and organization. It consists of the actual output or results of an organization as evaluated or measured in comparison with its planned output (or goals and objectives). Performance measurement assess the parameters under which programs, investments, and acquisitions are meeting the targeted results (Perez & Machado, 2017). Kaplan and Norton (2020) utilized a balanced scorecard approach to measure organizational performance from different aspects such as customer, internal, innovation & learning and financial aspect. To measure organizational performance Tangen (2016) has used seven aspects such as effectiveness, efficiency, quality, innovation, cost and productivity. Effect that outsourcing strategy has on organization performance can be measured by appraising the degree of achievement of the production, economic, customer satisfaction and other technological advantages of the outsourcing contract.

Outsourcing has become the new fashion in organizational strategy where the main reason to outsource is for firms to remain competitive thus gaining the competitive edge over their opponents by minimizing production cycle time, lowering production costs, decreasing marketing time,

enhancing product and service quality and improving overall organizational effectiveness (Gilley, Greer & Rasheed 2018). By outsourcing, firms become more productive, hence pay attention to their key activities (Domberger, 2021). Outsourcing also minimizes production costs because service providers are experienced in those fields and also enables firms to flexibly deal with technological variations (Balakrishnan & Wernerfelt, 2018). Outsourcing avoids administrative costs associated with production within the firm. Ameki Color is the largest manufacturing section of the Ameki Group which was founded in 1982 by Jacques Rusirare where the company is situated in Kigali Special Economics. Ameki Color generates the biggest share of the company's turnover. Through Ameki Color, the company manufactures a wide range of water and oil-based paints and it also has a section that assembles aluminum tins that carry the finished paints ready for the market.

1.1 Problem statement

Outsourcing has become an important strategic practice that enables organizations to improve efficiency, reduce operational costs, access specialized expertise, and focus on core business activities. Across the world, manufacturing companies increasingly rely on outsourcing to enhance competitiveness and improve organizational performance. Previous studies have shown that outsourcing contributes to cost reduction, improved customer satisfaction, and enhanced operational effectiveness by allowing firms to transfer non-core activities to specialized service providers (Akeshuwola & Elegbede, 2018). Despite these benefits, manufacturing companies continue to face challenges that affect the effectiveness of outsourcing practices. Studies by Aubert, Rivard, and Patry (2021) and Kundu and Pedersen (2021) indicate that high transportation costs, inadequate infrastructure, limited resources, and technological constraints increase operational expenses and reduce the efficiency of outsourced activities. These challenges are particularly significant in developing economies where manufacturing firms operate under resource limitations and intense market competition.

In Rwanda, manufacturing companies continue to experience challenges related to high production costs, shortages of specialized skills, limited access to advanced technology, and operational inefficiencies, which negatively affect organizational performance (Ollen, 2022). Although outsourcing has been adopted by some firms as a strategy to address these challenges, there is limited empirical evidence on how outsourcing influences the performance of manufacturing companies in Rwanda. Most previous studies have focused on outsourcing in developed countries or examined outsourcing generally without specifically analyzing the contribution of cost reduction, human capital, and operational efficiency to organizational performance within the Rwandan manufacturing sector. This creates a knowledge gap regarding the extent to which outsourcing practices contribute to the performance of manufacturing companies in Rwanda. Therefore, this study sought to assess the influence of outsourcing on the performance of Ameki Color Ltd by examining the effects of cost reduction, human capital, and operational efficiency. The findings are expected to provide evidence that can support management decisions and contribute to the development of effective outsourcing strategies in Rwanda's manufacturing sector.

1.2 Objective of the Study

1.2.1 General objective

The general objective of the study was to assess the influence of outsourcing on the performance of manufacturing companies in Rwanda, a case study of Ameki Color.

1.3.2 Specific objectives

The research proposal is guided by the following specific objectives;

- i. To examine the influence of cost reduction on performance of Ameki Color.
- ii. To assess the influence of human capital on performance of Ameki Color.
- iii. To assess the influence of operational efficiency on performance of Ameki Color.

2.1 Theoretical Framework

This study is anchored on three complementary theories: Transaction Cost Theory (TCT), Contingency Theory (CT), and the Resource-Based View (RBV). These theories provide a foundation for understanding how outsourcing influences the performance of manufacturing companies through cost reduction, human capital enhancement, and operational efficiency. While Transaction Cost Theory explains the economic rationale for outsourcing, Contingency Theory emphasizes the importance of adapting outsourcing decisions to organizational and environmental conditions, and the Resource-Based View highlights the strategic role of internal capabilities and human resources in achieving superior performance.

2.1.1 Transaction Cost Theory

Transaction Cost Theory was introduced by Ronald Coase (1937) and later developed by Oliver Williamson (1981, 1986). The theory argues that organizations seek to minimize the costs associated with conducting business transactions. These costs include searching for suppliers, negotiating contracts, monitoring performance, coordinating activities, and enforcing agreements. In the context of outsourcing, Transaction Cost Theory suggests that organizations outsource activities when external providers can perform them at a lower cost than internal departments. For manufacturing companies such as Ameki Color, outsourcing non-core functions such as transportation, maintenance, information technology services, or specialized production processes can reduce administrative and operational expenses. By transferring these activities to specialized service providers, the company avoids the costs of recruiting, training, supervising, and maintaining additional internal resources. This theory directly supports the study variable of cost reduction. It suggests that outsourcing enables organizations to minimize transaction and operational costs, thereby improving profitability and overall organizational performance. Consequently, the theory justifies the hypothesis that cost reduction achieved through outsourcing positively influences the performance of Ameki Color.

2.1.2 Contingency Theory

Contingency Theory was developed by Fred Fiedler in the 1960s. The theory proposes that there is no single best approach to managing an organization. Instead, organizational effectiveness depends on the alignment between management practices and situational factors such as market conditions, technology, organizational culture, and resource availability. In relation to outsourcing, Contingency Theory argues that outsourcing decisions should be based on the specific

circumstances facing an organization. The effectiveness of outsourcing depends on factors such as the complexity of tasks, availability of skilled personnel, technological requirements, and environmental uncertainty. Therefore, outsourcing strategies that succeed in one organization may not necessarily produce the same results in another. This theory is closely linked to the study variables of operational efficiency and human capital. For Ameki Color, outsourcing specialized activities allows the company to access expertise and skills that may not be available internally, thereby improving workforce capability and operational effectiveness. At the same time, management can adjust outsourcing arrangements according to changing production requirements and market conditions. The theory therefore supports the hypothesis that human capital and operational efficiency derived from outsourcing positively influence organizational performance.

2.1.3 Resource-Based View Theory

The Resource-Based View (RBV), developed by Barney (1991), argues that sustainable competitive advantage arises from valuable, rare, inimitable, and non-substitutable resources. According to this theory, organizations achieve superior performance by effectively utilizing and developing their strategic resources and capabilities. RBV provides a strong explanation of how outsourcing contributes to organizational performance. Rather than investing heavily in non-core activities, organizations can focus their resources on core competencies that create value and differentiate them from competitors. Through outsourcing, firms gain access to external expertise while concentrating internal resources on strategic activities. This theory is particularly relevant to the study variable of human capital. Skilled employees, technical knowledge, managerial expertise, and innovation capabilities are strategic resources that significantly influence organizational performance.

2.2 Empirical Literature

This section outlines the objectives in detail based on research and academic articles regarding the influence of outsourcing on the performance of manufacturing companies using three variables such as cost reduction, human capital and technology usage. The format of These empirical studies is available:

2.2.1 The Influence of Cost Reduction on Performance of Manufacturing Companies

Ahleman (2020) conducted research on how outsourcing impacted cost reduction and performance of manufacturing companies in Japan. The study's goal was to determine the influence of outsourcing on the labor cost reduction, 472 participants from a sample of five manufacturing businesses were included in the study using purposive sampling procedures. Both employee surveys and manager interview guides were used to get the needed data. According to the research, outsourcing influence labor cost reduction at a rate of 75%, which is a good signal between two variables, one independent and the other dependent. The research concluded that outsourcing minimized the cost of employees as well as assist company to acquire qualified employees. On the other hand, the study recommended that outsourcing should be used in the right time to enhance the productivity of company.

The study of Smith (2021) investigated outsourcing and supply chain performance among mobile telephone service providers in Kenya. This study established the relationship between outsourcing and supply chain performance among mobile phone service providers. The research applied quantitative and qualitative approaches while population was 459, the sample simple was

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calculated using silvan' formula where 247 were taken as sample size. Questionnaires and interview were used to collect primary data. Supply chain performance was measured from operation system responsiveness, logistic process responsiveness, supplier network responsiveness and competitive advantage. Results of the study indicate that supplier network responsiveness has the greatest impact on outsourcing while operating system responsiveness has the greatest negative effect on outsourcing.

Saguti (2019) conducted the study to evaluate how outsourcing affected the performance of construction enterprises in Tanzania. The sample size for the study, which used a descriptive and case study approach, was 63 respondents, selected via use of purposive sampling methods. To analyze the data, both quantitative and qualitative techniques were employed. They discussed research findings from an industry-wide questionnaire survey conducted in Tanzania and the 97% of the participants revealed that appropriate outsourcing strategy is crucial aspect in boosting sales as well as increase of market share due to its contribution in reduction of various transaction costs.

2.2.2 The Influence of Human Capital on Performance of Manufacturing Companies

Obonyo, (2021). performed analysis of how outsourcing affects market share expansion processing industry in Senegal. The study applied descriptive research design to test relationship between variables. The target population was selected from twelve producers' enterprises where research was selected the senior managers and subordinates, the total participants was 363. Using stratified sampling techniques 78 respondents were selected. Tables and questionnaires were both used to collect data to present the results once they had been analyzed using quantitative and qualitative methods. Where Croanbach coefficient was 0.8. The findings revealed that outsourcing brings employees who are knowledgeable and creative contribute ideas for process improvements, product enhancements, and cost-saving measures. The study concluded that outsourcing facilitate company to acquire qualified staff. The study encouraged managers to use outsourcing for non-core products.

Chege, Muathe and Thuo (2021) conducted research on the effects of outsourcing and employees sufficient on the performance of 19 intermediate enterprises in Nairobi County, Kenya. The study was conducted using a cross-sectional descriptive-explanatory survey for 397-person target population. Using a basic random sample and stratified sampling technique, 219 respondents were chosen. Using a questionnaire that was semi-structured, primary data were collected. The results showed that 82% confirmed that outsourcing contribute to the sufficient of staff while 73% agreed that outsourcing enhance employee morale. On the other hand, 75% revealed that outsourcing of employees increase productivity of enterprises. According to Littler and Benson (2019), the first and most prominent reason for choosing outsourcing is to minimize business costs. Research has shown that companies can save as much as sixty percent of their business costs when they choose outsourcing. This is possible because those companies that supply outsourcing services have adequate resources, personnel needed to conduct that business function under consideration. Additionally, such companies may be located in other regions or countries that supply input at a lower price than in the country of normal operation.

2.2.3 The Influence of Operational Efficiency on The Performance of Manufacturing Companies

The study conducted by Mkenda (2023) about the Role of Lean Manufacturing in Enhancing Operational Efficiency in Tanzanian Industries. The research objectives were to examine the impact of lean manufacturing on cost reduction, to assess how lean practices improve productivity. The data was collected using questionnaires for 46 respondents. Frequency, percentage, the data was examined using correlation, mean, and standard deviation. The findings showed that lean manufacturing improved efficiency by 35%, reducing waste by 20%. The study concluded that operational efficiency is crucial for competitive advantage. In recommendation, firms should adopt lean methodologies to optimize operations.

Odera (2019) analysed the importance of outsourcing of technology on the performance of food processing industry at Uganda. The study's descriptive research design allowed the author to show how two variables are related. The stratified random sampling method was applied. Obtaining the data necessary to determine the sample size of 82 individuals chosen from a population of 216, questionnaires and interviews. The research proved that there is significance correlation between technology and performance of food industry at $r=.86$. As conclusion, external technology partners facilitate companies quickly implement and integrate new technologies into their operations, reducing the time and resources required for technology deployment and increasing the speed of innovation. The study recommended that adequate budget and expertise in technology are required to stimulate performance of food industry through technology strategy.

Ammar Salah (2023) analyzed the Production and Operations Management Practices and Performance of Egyptian Manufacturing Firms. The research applied quantitative methods where the sample size was selected from Oman company as construction material companies. The data was collected using both secondary and primary data where primary data was obtained using questionnaire served on the 78 respondents and interview guide was conducted on managers and supervisors. The study was analysed using Pearson coefficient correlation. The findings demonstrated that operational efficiency contributes to the performance of manufacturing companies at coefficient correlation of 0.9 which strongly correlation. The study concluded that effective operations management enhances profitability.

2.3 Conceptual Framework

Figure 1 shows independent, digital transformation as independent and dependent, competitive advantage to local businesses variables.

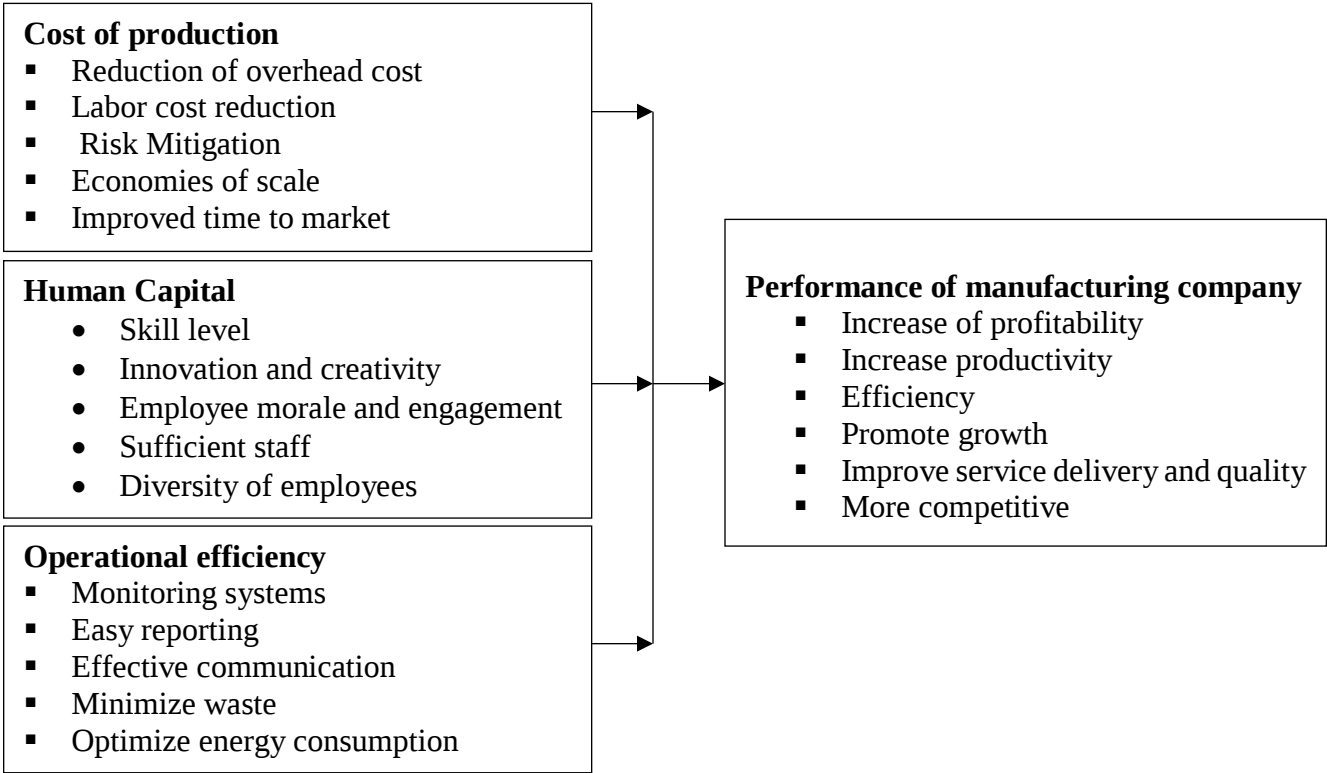


Figure 1: Conceptual Framework

3.0 Research Methodology

The study adopted a descriptive research design combined with a quantitative approach, which enabled the researcher to describe relationships among variables and analyze the influence of outsourcing on the performance of manufacturing companies. The target population comprised 150 employees of Ameki Color Ltd, from which a sample of 85 respondents was selected using a census sampling technique to minimize sampling error and ensure comprehensive representation of all key respondents involved in outsourcing-related activities. Primary data were collected using structured questionnaires with close-ended items measured on a five-point Likert scale ranging from strongly disagree to strongly agree, while secondary data were obtained from published books, journals, reports, and organizational documents to triangulate the primary findings. Content validity was ensured by aligning questionnaire items with the conceptual framework and research objectives through review by supervisors and subject matter experts, while reliability was established using Cronbach's Alpha coefficient with an acceptable threshold of 0.70 and above. Data were coded and analyzed using SPSS Version 25, with descriptive statistics comprising frequencies, percentages, means, and standard deviations used to summarize respondents' views, and inferential statistics including Pearson correlation and multiple linear regression employed to determine the relationship and effect of the independent variables on organizational performance, specified as $\hat{Y} = a + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \varepsilon$, where X_1 represents cost reduction, X_2 human capital, and X_3 operational efficiency. Throughout the research process, ethical principles of voluntary informed consent, confidentiality, anonymity, and exclusive use of data for academic purposes were strictly observed.

4.0 Research Findings and Discussion

The study targeted 85 respondents from Ameki Color Ltd, all of whom successfully completed and returned their questionnaires, yielding a 100% response rate, which is considered more than adequate for scientific research as it eliminates non-response bias and enhances the reliability of findings. The majority of respondents were male (56.5%), while 43.5% were female, indicating a relatively balanced gender distribution. In terms of age, the largest proportion of respondents fell within the 31 to 40 years bracket (36.5%), followed by those aged 41 to 50 years (32.9%), 20 to 30 years (20.0%), and above 50 years (10.6%), confirming that the sample was predominantly composed of mature and experienced working adults. Regarding educational attainment, half of the respondents held a bachelor's degree (50.6%), followed by those with secondary education (28.2%) and master's degree holders (21.2%), indicating a relatively highly educated workforce well positioned to provide informed responses on outsourcing practices and organizational performance. These demographic characteristics confirm that the sample is appropriate for examining how outsourcing influences the performance of manufacturing companies, as the respondents possess sufficient professional experience and educational background to meaningfully assess the dimensions of cost reduction, human capital, and operational efficiency at Ameki Color.

4.1 Descriptive Findings on Outsourcing and Organizational Performance

This section presents the descriptive findings on the extent to which outsourcing through cost reduction, human capital enhancement, and operational efficiency influences the performance of Ameki Color Ltd. The findings are presented across four tables corresponding to each study variable and the dependent variable of organizational performance.

Table 1: Influence of Cost Reduction on Performance of Ameki Color

Statement	SA (%)	A (%)	D (%)	SD (%)	Mean	SD
Outsourcing is applied to reduce overhead costs	36.5	52.9	8.2	2.4	3.23	0.74
Outsourcing is done to minimize labor costs	41.2	48.2	7.1	3.5	3.27	0.78
Outsourcing plays a role in risk mitigation	32.9	50.6	12.9	3.5	3.13	0.82
Outsourcing influences economies of scale	30.6	54.1	11.8	3.5	3.12	0.79
Outsourcing reduces recruitment costs for new staff	38.8	49.4	8.2	3.5	3.24	0.76

Table 1 presents the findings on how cost reduction through outsourcing influences the performance of Ameki Color, showing that the majority of respondents agreed that outsourcing contributes positively to cost management within the company. Specifically, 89.4% agreed or strongly agreed that outsourcing minimizes labor costs (Mean = 3.27, SD = 0.78), while 88.2% confirmed that outsourcing reduces recruitment costs for new staff (Mean = 3.24, SD = 0.76), and 89.4% agreed that outsourcing is applied to reduce overhead expenditures (Mean = 3.23, SD = 0.74). Furthermore, 84.7% acknowledged outsourcing's role in risk mitigation (Mean = 3.13, SD

= 0.82) and 84.7% agreed that it enables the company to benefit from economies of scale (Mean = 3.12, SD = 0.79). These findings are consistent with Transaction Cost Theory (Coase, 1937; Williamson, 1981), which argues that organizations outsource activities when external providers can perform them at lower cost than internal departments, thereby reducing administrative and operational expenses. The results further align with Saguti (2019), who found that appropriate outsourcing strategies significantly boost performance through reduction of various transaction costs in manufacturing firms. Overall, the findings indicate that cost reduction through outsourcing is a significant driver of organizational performance at Ameki Color by lowering overhead, labor, and recruitment expenditures while simultaneously enabling risk mitigation and economies of scale.

Table 2: Influence of Human Capital on Performance of Ameki Color (N = 85)

Statement	SA (%)	A (%)	D (%)	SD (%)	Mean	SD
Outsourcing increases availability of expert and trained staff	38.8	51.8	7.1	2.4	3.28	0.68
Outsourcing improves innovation and creativity	35.3	53.0	9.4	2.3	3.21	0.70
Outsourcing promotes employee morale and engagement	33.0	55.3	9.4	2.3	3.19	0.69
Outsourcing is done to avoid shortage of staff	36.5	50.6	10.6	2.3	3.21	0.71
Outsourcing increases availability of diverse employees	32.9	53.0	11.8	2.3	3.17	0.70

Table 2 presents the findings on the influence of human capital through outsourcing on the performance of Ameki Color, revealing that respondents generally agreed that outsourcing enhances access to skilled personnel and strengthens workforce capabilities. The highest mean score was recorded for access to expert and trained staff (Mean = 3.28, SD = 0.68), with 90.6% of respondents agreeing or strongly agreeing that outsourcing increases the availability of specialized and experienced personnel, suggesting that Ameki Color benefits from external expertise that may not be readily available internally. Respondents also confirmed that outsourcing improves innovation and creativity (Mean = 3.21, SD = 0.70) and mitigates staffing gaps (Mean = 3.21, SD = 0.71), with 88.3% and 87.1% respectively agreeing with these statements, while 88.3% acknowledged that outsourcing promotes employee morale and engagement (Mean = 3.19, SD = 0.69) and 85.9% agreed that it enhances workforce diversity (Mean = 3.17, SD = 0.70). These findings support the Resource-Based View (Barney, 1991), which emphasizes that firm performance is strengthened when organizations access rare and valuable human capabilities, and are consistent with Obonyo (2021), who found that outsourcing brings knowledgeable and creative employees who contribute ideas for process improvements and cost-saving measures. Overall, the findings confirm that outsourcing positively influences human capital development at Ameki Color by expanding access to skilled expertise, fostering innovation, and improving workforce engagement and diversity.

Table 3: Influence of Operational Efficiency on Performance of Ameki Color (N = 85)

Statement	SA (%)	A (%)	D (%)	SD (%)	Mean	SD
Ameki Color effectively minimizes production downtime	34.1	54.1	9.4	2.4	3.22	0.72
Efficient resource utilization has led to reduced operational costs	36.5	50.6	9.4	3.5	3.24	0.73
Streamlined supply chain processes improve product delivery	32.9	53.0	11.8	2.3	3.18	0.71
Operational efficiency has resulted in higher product quality and customer satisfaction	38.8	49.4	9.4	2.4	3.26	0.70
Operational efficiency initiatives have positively impacted employee productivity	35.3	52.9	9.4	2.4	3.25	0.71

Table 3 presents the findings on the influence of operational efficiency on the performance of Ameki Color, showing that respondents broadly agreed that outsourcing-driven operational improvements contribute positively to organizational performance. The highest mean score was recorded for the link between operational efficiency and product quality and customer satisfaction (Mean = 3.26, SD = 0.70), with 88.2% of respondents agreeing or strongly agreeing, suggesting that streamlined operations translate directly into improved output quality and stronger customer relationships. Respondents also confirmed that efficient resource utilization reduces operational costs (Mean = 3.24, SD = 0.73) and that operational efficiency initiatives positively impact employee productivity (Mean = 3.25, SD = 0.71), with 87.1% and 88.2% respectively in agreement, while 88.2% acknowledged that minimizing production downtime enhances performance (Mean = 3.22, SD = 0.72) and 85.9% agreed that streamlined supply chain processes improve product delivery (Mean = 3.18, SD = 0.71). These findings align with Mkenda (2023), who found that lean manufacturing improved efficiency by 35% and reduced waste by 20% in Tanzanian industries, and with Ammar Salah (2023), who demonstrated a strong correlation between operational efficiency and manufacturing performance at a coefficient of 0.9. Overall, the findings confirm that operational efficiency is a critical determinant of organizational performance at Ameki Color, with outsourcing enabling the company to minimize downtime, optimize resource utilization, strengthen supply chain processes, and improve product quality and workforce productivity.

4.2 Correlation Analysis

The study sought to determine whether statistically significant relationships exist between the outsourcing dimensions of cost reduction, human capital, and operational efficiency and the organizational performance of Ameki Color. Pearson correlation analysis was conducted to establish the strength and direction of these relationships. The findings are presented in Table 4.

Table 4: Pearson Correlation

Variables	Cost Reduction	Human Capital	Operational Efficiency	Performance
Cost Reduction	1			
Human Capital	.811**	1		
Operational Efficiency	.930**	.978**	1	
Performance	.825**	.852**	.820**	1

Table 4 presents the Pearson correlation results, revealing strong positive and statistically significant relationships between all three outsourcing dimensions and organizational performance. Cost reduction recorded a strong positive correlation with performance ($r = .825, p < .001$), indicating that outsourcing strategies aimed at reducing overhead, labor, and recruitment costs significantly contribute to improved organizational outcomes at Ameki Color. Human capital demonstrated the strongest correlation with performance among the three predictors ($r = .852, p < .001$), suggesting that access to skilled and specialized personnel through outsourcing is the most closely associated dimension with performance improvement, while operational efficiency also recorded a strong positive relationship with performance ($r = .820, p < .001$), confirming that streamlined processes, reduced downtime, and efficient resource utilization contribute meaningfully to organizational effectiveness. All correlations are statistically significant at the 0.01 level, confirming the reliability of these results. These findings are consistent with Gilley, Greer, and Rasheed (2018), who reported that human resource outsourcing positively influences organizational performance, and with Odera (2019), who demonstrated a significant correlation between outsourced operational efficiency and manufacturing performance at $r = .86$. The findings therefore confirm that outsourcing positively influences the performance of Ameki Color through cost reduction, human capital enhancement, and improved operational efficiency.

4.3 Regression Analysis of Outsourcing and Performance of Ameki Color

Multiple linear regression analysis was conducted to determine the extent to which the three outsourcing dimensions jointly and individually predict the performance of Ameki Color. The model was specified as $\hat{Y} = a + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \varepsilon$, where X_1 represents cost reduction, X_2 human capital, and X_3 operational efficiency.

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.895	0.801	0.792	0.247

Table 4.6: ANOVA Results

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	23.458	3	7.819	128.38	.000
Residual	5.832	82	0.072		
Total	29.290	85			

Table 4.7: Regression Coefficients

Predictor	B	Std. Error	Beta	t	Sig.
Constant	0.532	0.211		2.52	.013
Cost Reduction	0.326	0.072	0.312	4.53	.000
Human Capital	0.402	0.081	0.378	4.96	.000
Operational Efficiency	0.418	0.069	0.401	6.06	.000

The regression findings indicate that the three outsourcing dimensions jointly explain 80.1% of the variation in organizational performance ($R^2 = .801$), with the adjusted R^2 of .792 confirming the stability and reliability of the model. The ANOVA results confirm that the regression model is statistically significant ($F(3,82) = 128.38, p < .001$), demonstrating that the combined effect of cost reduction, human capital, and operational efficiency meaningfully predicts performance outcomes at Ameki Color. Among the three predictors, operational efficiency emerged as the strongest predictor ($\beta = 0.401, B = 0.418, t = 6.06, p < .001$), followed by human capital ($\beta = 0.378, B = 0.402, t = 4.96, p < .001$) and cost reduction ($\beta = 0.312, B = 0.326, t = 4.53, p < .001$), yielding the regression equation $\hat{Y} = 0.532 + 0.326(X_1) + 0.402(X_2) + 0.418(X_3)$. These results indicate that a one-unit increase in operational efficiency, human capital, and cost reduction improves performance by 0.418, 0.402, and 0.326 units respectively, holding other variables constant. These findings support Transaction Cost Theory (Williamson, 1981), which argues that outsourcing minimizes operational and coordination costs, and the Resource-Based View (Barney, 1991), which emphasizes that access to valuable external capabilities enhances firm performance, and are consistent with Ahleman (2020), who found that outsourcing influences labor cost reduction at a rate of 75% in manufacturing companies. Overall, the regression results confirm that outsourcing is a significant and multidimensional predictor of organizational performance at Ameki Color,

with operational efficiency, human capital, and cost reduction each contributing positively and significantly to improved manufacturing outcomes.

5.0 Conclusion

The study established that outsourcing has a significant and positive influence on the performance of Ameki Color Ltd through three key dimensions: cost reduction, human capital enhancement, and operational efficiency. The descriptive findings confirmed that outsourcing contributes to lowering overhead and labor costs, reducing recruitment expenses, and enabling economies of scale, while simultaneously expanding access to skilled and specialized personnel, fostering innovation, and improving workforce morale and diversity. Operational efficiency improvements through outsourcing were further shown to reduce production downtime, optimize resource utilization, strengthen supply chain processes, and enhance product quality and employee productivity. The correlation analysis established strong positive relationships between all three outsourcing dimensions and organizational performance, with human capital recording the highest correlation ($r = .852$, $p < .001$), followed by cost reduction ($r = .825$, $p < .001$) and operational efficiency ($r = .820$, $p < .001$). The regression analysis further confirmed that the three dimensions jointly explain 80.1% of the variation in organizational performance ($R^2 = .801$, $F(3,82) = 128.38$, $p < .001$), with operational efficiency emerging as the strongest individual predictor ($\beta = 0.401$), followed by human capital ($\beta = 0.378$) and cost reduction ($\beta = 0.312$). The study therefore concludes that outsourcing is a multidimensional strategic tool that significantly improves organizational performance when properly aligned with cost management, human resource, and operational efficiency objectives within Ameki Color's manufacturing context.

6.0 Recommendations

Manufacturing companies should adopt outsourcing as a strategic cost management tool by carefully selecting outsourcing partners, negotiating performance-based contracts, and continuously evaluating cost-saving outcomes to ensure that outsourcing remains economically beneficial over time rather than serving merely as a short-term cost-cutting measure. Firms should strengthen their human capital integration strategy by combining outsourcing with internal capacity development, investing in continuous training for internal employees to prevent over-dependence on external providers and sustain institutional knowledge, while simultaneously leveraging outsourced expertise to fill critical skills gaps and drive innovation. Organizations should integrate outsourcing decisions into broader operational efficiency and lean management frameworks, ensuring that outsourced functions are aligned with production schedules, quality control systems, and supply chain processes to guarantee seamless coordination and avoid operational disruptions. Future research should examine the long-term effects of outsourcing on organizational sustainability and competitiveness across a broader range of manufacturing firms in Rwanda to provide more generalizable evidence on outsourcing practices that drive performance improvement in the manufacturing sector.

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