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Procurement Outsourcing Strategies and Performance of Cement Manufacturing Companies in Machakos County, Kenya

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ABSTRACT

Purpose: This study focused on establishing the effects of procurement outsourcing strategies on performance of cement manufacturing companies in Machakos County, Kenya. This study was guided by Contingency Theory and Systems Theory.

Methodology: This study adopted a descriptive research design and focused on the seven cement manufacturing firms operating in Kenya: Bamburi Cement Limited, East Africa Portland Cement Company, ARM Africa Limited, Mombasa Cement, Savannah Cement, National Cement, and Lafarge Cement. The target population comprised 150 Procurement, Logistics, Finance, and Administrative Officers, who were selected due to their knowledge of procurement outsourcing practices. Using the Krejcie and Morgan (1970) formula, a sample size of 109 respondents was determined. Stratified random sampling was employed to categorize respondents into relevant strata, while simple random sampling was used to select participants from each stratum. Primary data were collected using questionnaires. Data analysis involved both descriptive and inferential statistics with the aid of SPSS version 25, and findings were presented using tables and figures.

Findings: The study concludes that category-specific outsourcing has a positive and significant effect on performance of cement manufacturing companies in Machakos County, Kenya. The study also concludes that end-to-end outsourcing has a positive and significant effect on performance of cement manufacturing companies in Machakos County, Kenya.

Unique Contribution to Theory, Policy and Practice: Based on the findings, the study recommends that cement manufacturing companies in Kenya should evaluate the performance of outsourcing providers regularly, establish clear contractual obligations and ensure that outsourced activities align with organizational objectives.

Keywords: *Procurement Outsourcing Strategies, Category-Specific Outsourcing, End-To-End Outsourcing, Cement Manufacturing Companies*

Background of the Study

Cement manufacturing companies are industrial enterprises engaged in the production of cement, a key construction material used in building and infrastructure development. These companies operate by sourcing raw materials such as limestone, clay, and gypsum, which are processed through crushing, grinding, heating, and blending to produce clinker that is later ground into fine cement powder (Jehad *et al*, 2023). Cement manufacturing companies play a vital role in supporting economic growth by providing essential materials for housing, roads, bridges, and other infrastructural projects. They also contribute to employment creation, industrialization, and regional development, while aligning their operations with sustainability practices to minimize environmental impact through energy efficiency and waste reduction measures (Hatane, Hotlan & Rany, 2024).

Cement manufacturing companies play a critical role in driving economic growth and infrastructural development by supplying one of the most essential materials used in the construction industry (Thrulogachantar & Suhaiza, 2024). Cement is a fundamental input for building roads, bridges, residential and commercial buildings, and other large-scale infrastructure projects that facilitate trade, connectivity, and urbanization. By ensuring a steady supply of quality cement, these companies directly support national development agendas, industrialization goals, and urban expansion, particularly in rapidly growing regions like Kenya. Moreover, they stimulate local economies by creating direct and indirect employment opportunities across the value chain, from mining and production to transportation and distribution (Kanyarat & Ungul, 2023).

In addition to their economic contributions, cement manufacturing companies play an important role in advancing innovation and sustainability in the construction sector. Many companies invest in research and technology to improve production efficiency, reduce energy consumption, and lower carbon emissions, which is vital given the environmental impact of cement production (Muhammad & Danish, 2024). They also support community development through corporate social responsibility initiatives, such as funding education, healthcare, and infrastructure projects in the regions where they operate. By fulfilling these roles, cement manufacturing companies not only strengthen the construction industry but also contribute to the overall well-being of society and the achievement of long-term development goals (Adda, 2021).

Procurement outsourcing strategies refer to the deliberate practice where an organization delegates part or all of its procurement functions—such as sourcing, contracting, supplier management, and order processing—to external specialized service providers to improve efficiency, reduce costs, and enhance focus on core business activities (Liban & Ibrahim, 2022). These strategies enable organizations to leverage the expertise, technology, and networks of third-party providers to access better suppliers, achieve economies of scale, and minimize procurement risks. In industries like cement manufacturing, procurement outsourcing strategies

are crucial in ensuring timely access to quality raw materials, optimizing operational costs, and strengthening overall organizational performance (Muwolya, 2023).

Category-specific outsourcing involves assigning procurement responsibilities for particular groups of goods or services to external specialists with expertise in those areas, enabling better market understanding, improved sourcing decisions, and enhanced cost management within those categories. End-to-end outsourcing refers to the complete transfer of the procurement function to an external provider, covering all stages of the procurement cycle from planning to evaluation (Giathi, Abayo & Muhoho, 2021). The study aims to establish the effects of procurement outsourcing strategies on performance of cement manufacturing companies in Machakos County, Kenya.

Statement of the Problem

Cement manufacturing companies are critically important as they form the backbone of infrastructure development and economic growth in Kenya and globally. Cement is a primary input in construction, contributing directly to roads, bridges, housing, and industrial development (Giathi, Abayo & Muhoho, 2021). In Kenya, the construction industry accounts for approximately 7.2% of the national GDP (KNBS, 2023), with cement consumption estimated at over 9 million metric tonnes annually, reflecting its high demand. The sector also provides significant employment opportunities, with cement manufacturing companies in Kenya collectively employing over 10,000 workers directly and supporting more than 50,000 indirect jobs in supply chains, logistics, and retail (Kamau & Thogori, 2023). Globally, cement production exceeds 4.1 billion tonnes annually (World Cement Report, 2022), underscoring its role as a critical driver of urbanization and industrialization. Furthermore, in regions like Sub-Saharan Africa, cement demand is projected to grow by 4–6% annually due to rapid population growth and urban expansion, making cement companies essential players in meeting housing, infrastructure, and industrial needs. Thus, cement manufacturing companies not only stimulate economic development but also enable the achievement of national visions such as Kenya's Vision 2030, which heavily depends on robust infrastructure growth (Munene, 2023).

Cement manufacturing companies in Kenya and globally face significant profitability challenges despite the rising demand for construction materials. One of the major issues is the high cost of production, with energy expenses alone accounting for 30–40% of total operating costs (International Energy Agency, 2022) (Isaac, 2022). In terms of market share, cement manufacturers struggle with stiff competition both locally and regionally. Kenya currently produces over 9 million tonnes of cement annually against a demand of around 7.4 million tonnes (KNBS, 2023), creating an oversupply in the market (Giathi, Abayo & Muhoho, 2021). This has intensified competition among local players such as Bamburi Cement, Savannah Cement, and National Cement, as well as from cross-border imports from countries like Egypt and Tanzania, where production costs are lower. For instance, Bamburi Cement's market share

dropped from 32% in 2018 to 28% in 2022, while smaller entrants continue to carve niches by offering lower prices. Such competition often leads to price wars, reducing profitability and threatening the survival of smaller firms (Kamau & Thogori, 2023).

Studies show that over 40% of Kenyan contractors report dissatisfaction with cement suppliers due to frequent stockouts and logistical inefficiencies, which delay project timelines (Kenya Builders Association, 2022) (Isaac, 2022). Furthermore, rising cement prices averaging Ksh 650–750 per 50kg bag in 2023, up from Ksh 550 in 2020 have made the product less affordable, particularly for individual homeowners and small-scale contractors. Complaints about adulterated or substandard cement in the market also erode customer trust and confidence. Since construction projects demand timely, reliable, and quality supplies, failure to meet these expectations reduces customer satisfaction and ultimately affects brand loyalty, profitability, and competitiveness in the long run (Bula & Ngahu, 2021).

Procurement outsourcing strategies greatly enhance the performance by reducing costs, improving efficiency, and boosting competitiveness. Strategic sourcing helps cut raw material and energy costs, while category management streamlines demand planning and reduces inventory losses (Giathi, Abayo & Muhoho, 2021). Various studies have been conducted in different parts of the world on procurement outsourcing strategies and organization performance. For instance, Giathi, Abayo and Muhoho (2021) in Kenya assessed on procurement outsourcing strategies on performance of public institutions. In Kenya, Kamau and Thogori (2023) conducted a study on an assessment on the influence of procurement outsourcing strategies on procurement performance of tier one Commercial Banks and Munene (2023) in Kenya researched on the role of procurement outsourcing strategies on organization's performance. However, none of these studies focused on category-specific outsourcing and end-to-end outsourcing on performance of cement manufacturing companies in Machakos County, Kenya. To fill the highlighted gaps, the current study sought to examine the influence of procurement outsourcing strategies (category-specific outsourcing and end-to-end outsourcing) on performance of cement manufacturing companies in Machakos County, Kenya.

Objectives of the Study

General Objective

The general objective of the study is to establish the effects of procurement outsourcing strategies on performance of cement manufacturing companies in Machakos County, Kenya.

Specific Objectives

i. To determine the effect of category-specific outsourcing on performance of cement manufacturing companies in Machakos County, Kenya
ii. To assess the effect of end-to-end outsourcing on performance of cement manufacturing companies in Machakos County, Kenya

Theoretical Literature

Contingency Theory

Contingency Theory developed by Fred E. Fiedler (1964) is a management and organizational theory that posits that there is no single best way to structure, lead, or manage an organization. Instead, the most effective approach depends on the specific internal and external conditions facing the organization. It emphasizes that organizational effectiveness is achieved through aligning managerial practices and structures with situational variables rather than relying on universal principles (Mwangi & Wanyoike, 2022).

The theory is grounded in the idea that organizational environments are dynamic and varied, requiring adaptive responses. It rejects rigid management models and instead promotes flexibility, arguing that appropriate decisions and systems are contingent upon contextual factors (Omondi & Mutua, 2021). These factors may include aspects of the organization's environment, technology, size, and internal capabilities, which collectively shape what management approach is most suitable. Contingency Theory further highlights the importance of fit between organizational design and situational demands (Kiprotich & Cheruiyot, 2023). It suggests that performance and efficiency are optimized when there is coherence between the chosen management strategies and the prevailing circumstances. As a result, it underscores continuous assessment and adjustment as essential managerial responsibilities, ensuring that organizations remain responsive and effective in changing conditions (Gunawardena & Perera, 2022). The theory was used to determine the effect of category-specific outsourcing on performance of cement manufacturing companies in Machakos County, Kenya.

Systems Theory

Systems Theory developed by Ludwig von Bertalanffy (1937) is a broad interdisciplinary framework that focuses on understanding phenomena as organized wholes made up of interrelated and interdependent components (Mwangi & Njoroge, 2022). It emphasizes that a system cannot be fully understood by analyzing its individual parts in isolation, because the properties and behavior of the whole emerge from the interactions among its elements. The theory therefore shifts attention from reductionist thinking to a holistic perspective in which relationships, structures, and patterns of interaction are central (Omondi & Wekesa, 2021). At its core, Systems Theory views any system as a set of interconnected subsystems that continuously influence one another through flows of information, energy, or resources. These interactions create dynamic patterns that determine how the system behaves over time. A key assumption is that systems are open in nature, meaning they interact with their environment and are influenced by external conditions while also exerting influence outward (Kipkemboi & Cherotich, 2023).

Systems Theory also emphasizes the concept of feedback, which refers to the processes through which systems regulate themselves and maintain stability or adapt to change. Feedback

mechanisms help explain how systems respond to internal and external pressures, leading either to equilibrium or transformation (Bennett & Harrison, 2020). This perspective highlights that systems are not static but constantly evolving in response to changing conditions. Additionally, Systems Theory underscores the importance of boundaries, hierarchy, and interdependence within complex structures. Boundaries define what is included within a system, while hierarchy describes the arrangement of subsystems within larger systems. Interdependence highlights that changes in one part of the system inevitably affect other parts, reinforcing the idea that understanding complexity requires attention to the whole structure rather than isolated components (Mohamed & Abdullahi, 2021). The theory was used to assess the effect of end-to-end outsourcing on performance of cement manufacturing companies in Machakos County, Kenya.

Conceptual Framework

A conceptual framework shows the relationship between the variables in the study (Wachira, 2020). Figure 1 below shows the conceptual framework.

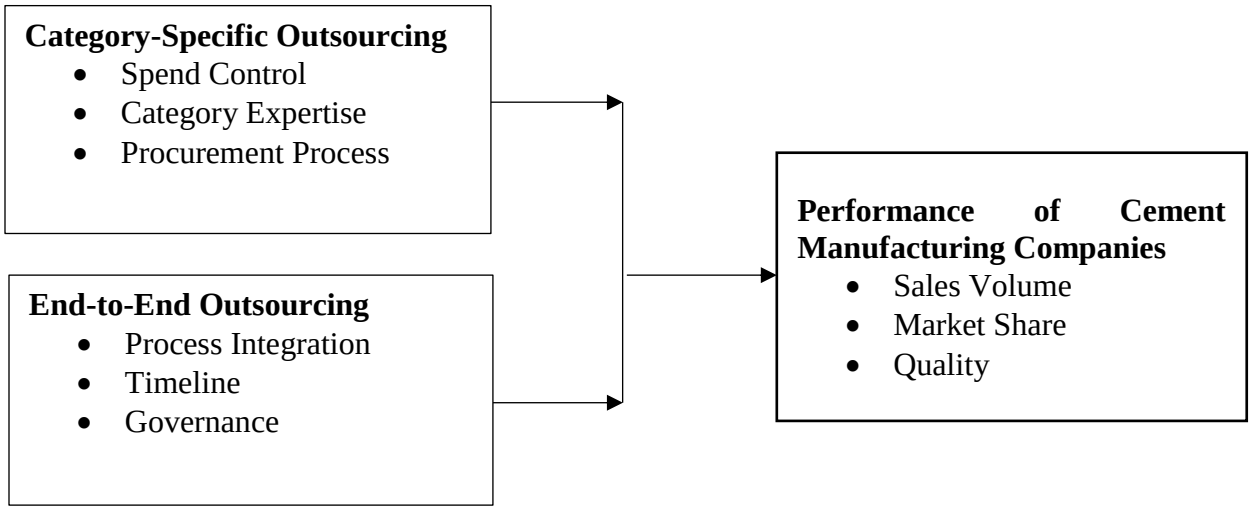


Figure 1: Conceptual Framework

Category-Specific Outsourcing

Category-Specific Outsourcing refers to the delegation of procurement responsibilities related to a clearly defined category of goods or services to an external provider that specializes in that particular category (Gunawardena & Perera, 2022). It involves concentrating outsourcing arrangements on specific procurement segments where specialized knowledge, market expertise, and supplier networks are required to achieve better sourcing outcomes. This approach allows an organization to benefit from targeted expertise, improved category management, and enhanced efficiency in procurement decision-making while maintaining control over other categories that

may be more sensitive or strategically important (Hassan & El-Sayed, 2022). Spend control refers to the ability to regulate and monitor procurement expenditures within a defined category through structured oversight and disciplined purchasing practices. Category expertise refers to specialized knowledge and understanding of specific procurement categories, including market trends, supplier capabilities, pricing structures, and quality standards. Through category-specific outsourcing, organizations gain access to professionals who possess in-depth expertise in managing particular categories, enabling more informed sourcing decisions and improved negotiation outcomes (Kiprotich & Cheruiyot, 2023). This expertise enhances the ability to identify optimal suppliers, assess risks within the category, and implement best practices that improve overall procurement performance. Procurement process in the context of category-specific outsourcing is defined as the targeted delegation of distinct spend segments such as IT or marketing to external specialists (Gunawardena & Perera, 2022). Category-specific outsourcing improves efficiency by streamlining procurement processes, reducing administrative workload, and leveraging established systems and supplier networks managed by external experts. This leads to faster procurement cycles, reduced processing delays, and improved coordination between stakeholders. Ultimately, enhanced efficiency allows organizations to achieve timely acquisition of goods and services while optimizing the use of available resources (Hassan & El-Sayed, 2022).

End-to-End Outsourcing

End-to-End Outsourcing refers to the comprehensive transfer of the entire procurement function or supply chain process to an external service provider, covering all stages from sourcing and supplier selection to contracting, purchasing, delivery coordination, and performance management (Bennett & Harrison, 2020). It involves entrusting the outsourced partner with full responsibility for managing procurement activities on behalf of the organization, while ensuring alignment with agreed objectives, standards, and performance expectations (Mohamed & Abdullahi, 2021). This approach is designed to achieve maximum governance, process integration, and value creation by leveraging the provider's end-to-end expertise, systems, and networks to manage procurement as a complete and continuous function. Process integration refers to the seamless coordination and alignment of procurement activities across different stages of the supply chain under end-to-end outsourcing arrangements (Mwangi & Njoroge, 2022). It ensures that sourcing, ordering, delivery, and supplier management functions operate as a unified system rather than isolated tasks.

Governance in end-to-end outsourcing is the combined system of rules, structures, and relational practices used to direct and control a vendor relationship across an entire outsourced business process.. (Kipkemboi & Cherotich, 2023). Faster procurement process enhance responsiveness to demand, improve planning accuracy, and ensure timely availability of goods and services. This contributes to smoother operations and better alignment with production or service schedules (Bennett & Harrison, 2020). Establishing clear goals, timelines, and performance metrics

upfront. Through end-to-end outsourcing, organizations benefit from standardized processes, advanced procurement technologies, and expert management provided by external partners. This leads to reduced duplication of effort, lower administrative burden, and improved accuracy in procurement operations. Ultimately, enhanced operational efficiency supports cost savings, better resource utilization, and improved overall performance of procurement functions (Mohamed & Abdullahi, 2021).

Empirical Review

Category-Specific Outsourcing and Organization Performance

Gunawardena and Perera (2022) conducted a study on the influence of category-specific outsourcing on organizational performance among apparel manufacturing firms in Sri Lanka. The study focused on outsourcing specialized functions such as logistics, information technology services, and non-core production activities and their effect on firm performance. The researchers adopted a descriptive survey research design targeting procurement managers, operations managers, and supply chain officers from selected apparel firms in Colombo and Gampaha districts. The target population comprised 430 employees, from which a sample of 205 respondents was selected using stratified random sampling. Data were collected using structured questionnaires and analyzed using descriptive statistics and multiple regression analysis. The findings revealed that category-specific outsourcing significantly improved organizational performance by reducing operational costs, enhancing service quality, and allowing firms to concentrate on their core competencies. The study concluded that organizations should strategically outsource specialized categories of activities to improve efficiency and competitiveness.

Hassan and El-Sayed (2022) conducted a study on the influence of category-specific outsourcing on organizational performance among manufacturing firms in Egypt. The study focused on the outsourcing of transportation, maintenance services, and information technology functions. A descriptive survey research design was adopted targeting procurement managers, operations managers, and departmental heads from manufacturing companies located in Cairo and Alexandria. The target population comprised 410 employees, from which a sample of 194 respondents was selected through stratified random sampling. The findings revealed that category-specific outsourcing significantly improved organizational performance by reducing operational costs, increasing efficiency, and enhancing service delivery. The study concluded that manufacturing firms should strategically outsource specialized functions to improve productivity and organizational growth.

Mwangi and Wanyoike (2022) conducted a study on the influence of category-specific outsourcing on organizational performance among commercial banks in Nairobi County, Kenya. The study focused on outsourcing information technology services, security services, and customer care operations. A descriptive survey research design was adopted targeting branch

managers, operations managers, and procurement officers from selected commercial banks. The target population consisted of 340 employees, from which a sample of 162 respondents was selected using stratified random sampling. Data were analyzed using regression analysis. The findings revealed that category-specific outsourcing positively influenced organizational performance through improved service delivery, cost reduction, and enhanced operational flexibility. The study concluded that banks should strategically outsource non-core activities to improve efficiency and competitiveness

Omondi and Mutua (2021) conducted a study on the effect of category-specific outsourcing on organizational performance among public universities in Kenya. The study employed a correlational research design targeting procurement officers, finance officers, and administrative managers from selected public universities. The target population comprised 295 employees, from which a sample of 140 respondents was selected through purposive and random sampling techniques. The findings established that outsourcing specific categories such as cleaning services, catering services, and security functions significantly improved organizational performance by reducing operational costs and enhancing service quality. The study concluded that public universities should adopt category-specific outsourcing to improve efficiency and institutional effectiveness.

Kiprotich and Cheruiyot (2023) conducted a study on the influence of category-specific outsourcing on organizational performance among manufacturing firms in Nakuru County, Kenya. The study adopted a descriptive research design targeting procurement managers, production managers, and logistics officers from selected manufacturing firms. The target population was 310 employees, from which a sample of 148 respondents was selected using stratified random sampling techniques. Data were analyzed using descriptive statistics and regression analysis. The findings indicated that outsourcing specialized functions such as transportation, warehousing, and equipment maintenance significantly enhanced organizational performance through improved productivity reduced operational costs, and better resource utilization. The study concluded that category-specific outsourcing is a valuable strategy for improving organizational performance and sustaining competitive advantage.

End-to-End Outsourcing and Organization Performance

Bennett and Harrison (2020) conducted a study on the relationship between end-to-end outsourcing and organizational performance among retail chain organizations in the United Kingdom. The target population comprised 530 employees, from which a sample of 250 respondents was selected using stratified sampling techniques. Data were collected using questionnaires and analyzed using inferential statistical methods. The findings revealed that end-to-end outsourcing significantly improved organizational performance through enhanced supply chain integration, reduced operational costs, and improved customer service delivery. The study

concluded that organizations that outsource complete business processes are better positioned to improve efficiency and sustain competitive advantage.

Mohamed and Abdullahi (2021) conducted a study on the effect of end-to-end outsourcing on organizational performance among telecommunication companies in Somalia. The study employed a descriptive research design targeting procurement managers, technical managers, logistics officers, and customer service managers from Hormuud Telecom and Somtel. The target population consisted of 315 employees, from which a sample of 150 respondents was selected using purposive and simple random sampling techniques. Data were analyzed using regression and correlation analysis. The findings established that end-to-end outsourcing positively influenced organizational performance by improving service quality, reducing operational complexities, and enabling organizations to focus on strategic activities. The study concluded that telecommunication firms should adopt end-to-end outsourcing strategies to improve efficiency and service delivery.

Mwangi and Njoroge (2022) conducted a study on the influence of end-to-end outsourcing on organizational performance among commercial banks in Nairobi County, Kenya. The study focused on outsourcing entire support functions such as information technology management, customer support services, and back-office operations. The researchers adopted a descriptive survey research design targeting branch managers, procurement officers, ICT managers, and operations managers from selected commercial banks. The target population consisted of 340 employees, from which a sample of 162 respondents was selected using stratified random sampling techniques. Data were analyzed using descriptive and inferential statistics. The findings revealed that end-to-end outsourcing positively influenced organizational performance by reducing operational costs, improving service efficiency, and enhancing customer satisfaction. The study concluded that commercial banks should strategically outsource non-core business processes to improve performance and competitiveness

Omondi and Wekesa (2021) conducted a study on the effect of end-to-end outsourcing on organizational performance among public universities in Kenya. The study employed a correlational research design targeting procurement officers, finance officers, registrars, and administrative managers from selected public universities. The target population comprised 300 employees, from which a sample of 144 respondents was selected using purposive and random sampling techniques. Data were analyzed using regression analysis. The findings established that end-to-end outsourcing significantly improved organizational performance by reducing administrative costs, enhancing service quality, and improving operational efficiency. The study concluded that universities should adopt comprehensive outsourcing strategies to improve institutional effectiveness and service delivery.

Kipkemboi and Cherotich (2023) conducted a study on the influence of end-to-end outsourcing on organizational performance among manufacturing firms in Nakuru County, Kenya. The study

adopted a descriptive research design targeting procurement managers, supply chain managers, logistics officers, and production supervisors from selected manufacturing firms. The target population consisted of 325 employees, from which a sample of 155 respondents was selected using stratified random sampling techniques. Data were collected through structured questionnaires and analyzed using descriptive statistics and regression analysis. The findings showed that end-to-end outsourcing significantly enhanced organizational performance by improving process efficiency, reducing production costs, and enabling better utilization of organizational resources. The study concluded that manufacturing firms should embrace end-to-end outsourcing arrangements to enhance organizational productivity and long-term competitiveness.

RESEARCH METHODOLOGY

Research Design

The overall approach for integrating the many components of the study in a cohesive and logical fashion to successfully solve the research topic is referred to as research design. It is the plan on how to answer research questions (Dunn, 2018). The different types of research designs include: exploratory design, descriptive design, case study, experimental research design, longitudinal studies among others (Kasomo, 2019).

This study will use a descriptive research design. According to Neuman (2019), a descriptive survey research design is one that is used to gather data on the current state of a phenomenon in order to explain what is present in terms of variables or circumstances in a scenario. This design is deemed acceptable by the researchers since it allows for the collection of trustworthy data that explains connections between the independent and dependent variables. It also aids in the development of quantitative measures that aid in the inference of probable connections among study variables (Patron, 2019).

Target Population

Target population refers to a group of individuals with certain characteristics in common, which are of interest to the researcher or relevant to the study (Sekaran & Bougie, 2019). Target population is the population that the researcher may want to generalize the result for the study. This study targeted cement manufacturing firms in Kenya. According to KAM report (2023) there are seven cement manufacturing firms in Kenya namely; Bamburi Cement Limited, East Africa Portland Cement Company, ARM Africa Limited, Mombasa Cement, Savannah Cement, National Cement and Lafarge cement. The target population in this study was 150 comprising of procurement officers, logistics officers, Finance officers and administrative officers working in seven cement manufacturing firms as tabulated in the table 3.1 Since they are in a position to provide reliable information on the procurement outsourcing. The unit of analysis was the seven

cement manufacturing firms while the unit of observation was 150 employees comprising of procurement officers, logistics officers, Finance officers and administrative officers

Table 1: Showing distribution of the respondents

Cement Manufacturing Company	No.of Procurement Officers	No.of Logistics Officers	No.of Finance Officers	No.of Administrative Officers	Total
Bamburi Cement Limited	10	8	5	4	**27**
East Africa Portland Cement Company	8	5	6	5	**24**
ARM Africa Limited	7	6	5	4	**22**
Mombasa Cement	9	6	5	3	**23**
Savannah Cement	8	6	3	2	**19**
National Cement	6	5	3	2	**16**
Lafarge Cement	9	5	3	2	**19**
Target Population					**150**

Total Target Population=150

Source: Human Resource Report 2025

Sample Size and Sampling Technique

A sampling frame is a list used to define a study population of interest. The sampling frame defines a set of elements from which a study can select a sample of the target population (Kothari, 2019). Sampling as described by Geteria, (2019) is the process of choosing the units of the target population which are to be included in the study in such a way that the sample of selected elements represent the population. The study used Krejcie and Morgan (1970) formula to arrive at the sample size. The selection formula was as follows:

$$n=\frac{N}{1+(N-1)e^2}$$

Where n= the required sample size

N = is the Target Population (150)

e = accuracy level required. Standard error = 5%

Sample calculation

$$n=\frac{150}{1+(150)0.05^2}$$

n=109

n=109 respondents

According to Mugenda and Mugenda, (2019), a population sample of between 10-30% is enough representation of the characteristics of the target population. As stated by Walpole, and Myers (2019), a sample is derived from a subdivision of the populace that is being reviewed. The sample details elements that are picked from the accessible population. The size of the sample seeks to represent effectiveness, representativeness, dependability plus flexibility of the entire population. The study sample size was 109 respondents. Stratified random sampling was used to get the respondents. The study used simple random sampling to select respondents from each stratum. In simple random sampling, every respondent had an equal chance of participating in the study.

Data Collection Instruments

The study's primary data collecting tool was questionnaires, which include closed-ended questions. Questionnaires are used since they are efficient data collecting tools allowing respondents to express a large portion of their thoughts on the study topic (Dempsey, 2019). As per Kothari (2018), data acquired using questionnaires is devoid of bias and researcher interference, resulting in reliable and genuine data. The questionnaire is preferred because it allows participants to give their thoughts or ideas in a much more honest way.

According to Agresti (2019), the questionnaire method of data collection is beneficial because the streamlined and indifferent configurations of a questionnaire provide homogeneity and aid in the impartial data collection; participants' privacy and confidentiality are ensured, and they are capable of completing them at their leisure (Kasomo, 2018).

Pilot Testing

The questionnaires were pre-tested by the researcher to evaluate the data's reliability and validity. The purpose of this exercise is to determine the respondents' degree of knowledge of the specifics in the questionnaire, as well as to see if the feedback from the pre-test supplied the sort of information required or if any of the questions were misinterpreted. Some questionnaire items were removed after this exercise, while others were enhanced. A pilot test is used to discover flaws in the design and equipment, as well as to give proxy data for probabilistic sampling procedure (Cooper & Schindler, 2019). The pilot test comprised of 10% from Bamburi Cement Limited (10 respondents) of the sample size

Data Analysis and Presentation

A researcher can analyze data using a variety of approaches, including descriptive analysis and inferential analysis. The numerical data obtained was analyzed using both descriptive and inferential statistics (Kothari, 2018). For the analysis of research variables, the Statistical Package for Social Sciences (SPSS) application version 29 was utilized. It contains descriptive statistical capabilities that help with variable response comparability and show response frequency clearly. It has a lot of data handling capabilities and a lot of statistical analyzing processes that can analyze tiny to huge data statistics, and it's more stable (Orodho, 2019). This method provides concise summaries of the sample data as well as manageable quantitative descriptions.

Correlation analysis was used to determine the link between the independent and dependent variables. The goal of correlation is to enable the researcher to forecast how a measure varies from the norm. The size and orientation of the link between a single independent variable in the model was determined using Karl Pearson's correlation coefficient (r) (Ngechu, 2017). Correlation coefficient values are always between -1 and +1. A correlation coefficient of +1 show that the two parameters are perfectly related in a positive linear sense, whereas a correlation coefficient of 0 indicates that there is no relationship.

By fitting a linear equation to the observed data, multiple linear regression aims to describe the connection between two or more explanatory factors and a response variable, where each value of the independent variable is linked with a value of the dependent variable (Ogula, 2019). As a result, this research is a good match for the approach and test. The proportion of variation in the predicted variable explained by variance in the predictor variables is known as R2, and the greater it is, the better (Kombo & Tromp, 2019).

The model is presented as follows:

$$\mathbf{Y=\beta o+\beta_1 X_1+\beta_2 X_2+ \varepsilon}$$

Where:

Y= Performance of cement manufacturing companies in Machakos County, Kenya

$\boldsymbol{\beta_o}$= Constant Coefficient

$\mathbf{X_1}$= Category-Specific Outsourcing

$\mathbf{X_2}$= End-To-End Outsourcing

$\boldsymbol{\varepsilon}$ = Random Error Term

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

Response Rate

The sample size for the study comprised 109 respondents, of whom 10 respondents were selected for the pilot test. The remaining 99 respondents were administered with questionnaires during the main data collection exercise. Of the 99 questionnaires administered, 77 were completely filled and returned, resulting in a response rate of 77.8%. As indicated by Eric and Marko (2019), a response rate that is above fifty percent is considered adequate for data analysis and reporting while a response rate that is above 70% is classified as excellent. Hence, the response rate of this study was within the acceptable limits for drawing conclusions and making recommendations.

Descriptive Statistics

Category-Specific Outsourcing and Organizational Performance

The first specific objective of the study was to determine the effect of category-specific outsourcing on performance of cement manufacturing companies in Machakos County, Kenya. The respondents were requested to indicate their level of agreement on various statements relating to category-specific outsourcing and performance of cement manufacturing companies in Machakos County, Kenya. The results were as presented in Table 2.

From the results, the respondents agreed that the company reduces unnecessary spending through category-focused outsourcing arrangements (M=3.845, SD= 0.776). In addition, the respondents agreed that outsourcing specific categories improves budget monitoring and financial discipline (M=3.821, SD= 0.870). Further, the respondents agreed that the company benefits from expert handling of specific procurement categories through outsourcing (M=3.818, SD=0.792).

From the results, the respondents agreed that outsourced category experts improve decision-making in sourcing and supplier selection (M=3.805, SD= 0.686). In addition, the respondents agreed that category-specific outsourcing enhances the speed of procurement processes (M=3.785, SD=0.878). Further, the respondents agreed that the company experiences fewer delays in procurement activities due to category-focused outsourcing (M=3.771, = SD=0.521).

Table 2: Category-Specific Outsourcing and Organizational Performance

	Mean	Std. Dev
The company reduces unnecessary spending through category-focused outsourcing arrangements.	3.845	0.776
Outsourcing specific categories improves budget monitoring and financial discipline.	3.821	0.870
The company benefits from expert handling of specific procurement categories through outsourcing.	3.818	0.792
Outsourced category experts improve decision-making in sourcing and supplier selection.	3.805	0.686
Category-specific outsourcing enhances the speed of procurement processes.	3.785	0.878
The company experiences fewer delays in procurement activities due to category-focused outsourcing	3.771	0.521
Aggregate	**3.808**	**0.754**

End-to-End Outsourcing and Organizational Performance

The second specific objective of the study was to assess the effect of end-to-end outsourcing on performance of cement manufacturing companies in Machakos County, Kenya. The respondents were requested to indicate their level of agreement on various statements relating to end-to-end outsourcing and performance of cement manufacturing companies in Machakos County, Kenya. The results were as presented in Table 3.

From the results, the respondents agreed that end-to-end outsourcing enhances the integration of procurement processes within the organization (M=3.820, SD= 0.858). In addition, the respondents agreed that outsourcing across the entire process improves alignment between suppliers and internal operations (M=3.812, SD= 0.826). Further, the respondents agreed that end-to-end outsourcing reduces the overall time required to complete procurement processes (M=3.803, SD=0.843).

From the results, the respondents agreed that the company achieves faster turnaround times due to streamlined outsourced operations (M=3.799, SD= 0.809). In addition, the respondents agreed that end-to-end outsourcing improves the overall efficiency of procurement operations (M=3.777, SD= 0.558). Further, the respondents agreed that the company achieves better resource utilization through complete outsourcing of processes (M=3.732=, SD=0.888).

Table 3: End-to-End Outsourcing and Organizational Performance

	Mean	Std. Dev
End-to-end outsourcing enhances the integration of procurement processes within the organization.	3.820	0.858
Outsourcing across the entire process improves alignment between suppliers and internal operations.	3.812	0.826
End-to-end outsourcing reduces the overall time required to complete procurement processes.	3.803	0.843
The company achieves faster turnaround times due to streamlined outsourced operations.	3.799	0.809
End-to-end outsourcing improves the overall efficiency of procurement operations.	3.777	0.558
The company achieves better resource utilization through complete outsourcing of processes.	3.732	0.888
Aggregate	**3.791**	**0.797**

Organizational Performance

The respondents were requested to indicate their level of agreement on various statements relating to performance of cement manufacturing companies in Machakos County, Kenya. The results were as presented in Table 4.

From the results, the respondents agreed that the company has experienced steady growth in sales volume (M=3.752, SD= 0.802). In addition, the respondents agreed that procurement outsourcing has contributed to cost savings and higher profits (M=3.745, SD= 0.890). Further, the respondents agreed that the company's market share has increased over the past few years (M=3.739, SD=0.845).

From the results, the respondents agreed that procurement strategies have improved the company's competitiveness in the market (M=3.712, SD= 0.785). In addition, the respondents agreed that customers are generally satisfied with the company's products and services (M=3.693, SD= 0.757). Further, the respondents agreed that improved procurement practices have enhanced overall customer satisfaction (M=3.687, SD=0.626).

Table 4: Organizational Performance

	Mean	Std. Dev
The company has experienced steady growth in sales volume.	3.752	0.802
Procurement outsourcing has contributed to cost savings and higher profits.	3.745	0.890
The company's market share has increased over the past few years.	3.739	0.845
Procurement strategies have improved the company's competitiveness in the market.	3.712	0.785
Customers are generally satisfied with the company's products and services.	3.693	0.757
Improved procurement practices have enhanced overall customer satisfaction.	3.687	0.626
Aggregate	**3.721**	**0.784**

Inferential Statistics

Inferential statistics such as correlation analysis and regression analysis were used to assess the relationships between the independent variables (category-specific outsourcing and end-to-end outsourcing) and the dependent variable (performance of cement manufacturing companies in Machakos County, Kenya).

Correlation Analysis

This research adopted Pearson correlation analysis determine how the dependent variable (performance of cement manufacturing companies in Machakos County, Kenya) relates with the independent variables (category-specific outsourcing and end-to-end outsourcing).

Table 5: Correlation Coefficients

		Organizational Performance	Category-Specific Outsourcing	End-to-End Outsourcing
Organizational Performance	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	77		
Category-Specific Outsourcing	Sig. (2-tailed)	.002		
	N	77		
	Pearson Correlation	.845**	1	
	Sig. (2-tailed)	.000		
	N	77	77	
End-to-End Outsourcing	Pearson Correlation	.833**	.125	1
	Sig. (2-tailed)	.001	.060	
	N	77	77	77

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

From the results, there was a very strong relationship between category-specific outsourcing and performance of cement manufacturing companies in Machakos County, Kenya (r = 0.845, p value =0.000). The relationship was significant since the p value 0.000 was less than 0.05 (significant level). The findings are in line with the findings of Gunawardena and Perera (2022) who indicated that there is a very strong relationship between category-specific outsourcing and organizational performance.

The results also revealed that there was a very strong relationship between end-to-end outsourcing and performance of cement manufacturing companies in Machakos County, Kenya (r = 0.833, p value =0.001). The relationship was significant since the p value 0.001 was less than 0.05 (significant level). The findings are in line with the findings of Bennett and Harrison (2020) who indicated that there is a very strong relationship between end-to-end outsourcing and organizational performance.

Regression Analysis

Multivariate regression analysis was used to assess the relationship between independent variables (category-specific outsourcing and end-to-end outsourcing) and the dependent variable (performance of cement manufacturing companies in Machakos County, Kenya).

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.805[a]	.648	.647	.10412

a. Predictors: (Constant), category-specific outsourcing and end-to-end outsourcing

The model summary was used to explain the variation in the dependent variable that could be explained by the independent variables. The r-squared for the relationship between the independent variables and the dependent variable was 0.648. This implied that 64.8% of the variation in the dependent variable (performance of cement manufacturing companies in Machakos County, Kenya) could be explained by independent variables (category-specific outsourcing and end-to-end outsourcing).

Table 7: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	87.236	2	43.618	68.047	.002[b]
	Residual	47.401	74	.641		
	Total	134.637	76			

a. Dependent Variable: performance of cement manufacturing companies in Machakos County, Kenya

b. Predictors: (Constant), category-specific outsourcing and end-to-end outsourcing

The ANOVA was used to determine whether the model was a good fit for the data. F calculated was 68.047 while the F critical was 3.120. The p value was 0.002. Since the F-calculated was greater than the F-critical and the p value 0.002 was less than 0.05, the model was considered as a good fit for the data. Therefore, the model can be used to predict the influence of category-specific outsourcing and end-to-end outsourcing on performance of cement manufacturing companies in Machakos County, Kenya.

Table 8: Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.254	0.068		3.735	0.000
category-specific outsourcing	0.348	0.090	0.347	3.867	0.000
end-to-end outsourcing	0.334	0.087	0.333	3.839	0.001

a Dependent Variable: performance of cement manufacturing companies in Machakos County, Kenya

The regression model was as follows:

$$\mathbf{Y = 0.254+0.348X_3 + 0.334X_4 +\varepsilon}$$

According to the results, category-specific outsourcing has a significant effect on performance of cement manufacturing companies in Machakos County, Kenya β1=0.348, p value= 0.001). The relationship was considered significant since the p value 0.001 was less than the significant level of 0.05. The findings are in line with the findings of Gunawardena and Perera (2022) who indicated that there is a very strong relationship between category-specific outsourcing and organizational performance.

In addition, the results revealed that end-to-end outsourcing has a significant effect on performance of cement manufacturing companies in Machakos County, Kenya β1=0.334, p value= 0.001). The relationship was considered significant since the p value 0.001 was less than the significant level of 0.05. The findings are in line with the findings of Bennett and Harrison (2020) who indicated that there is a very strong relationship between end-to-end outsourcing and organizational performance.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The study concludes that category-specific outsourcing has a positive and significant effect on performance of cement manufacturing companies in Machakos County, Kenya. Findings revealed that spend control, category expertise and procurement efficiency influence performance of cement manufacturing companies in Machakos County, Kenya.

The study also concludes that end-to-end outsourcing has a positive and significant effect on performance of cement manufacturing companies in Machakos County, Kenya. Findings revealed that process integration, cycle time and operational efficiency influence performance of cement manufacturing companies in Machakos County, Kenya.

Recommendations

The study recommends that cement manufacturing companies in Kenya should evaluate the performance of outsourcing providers regularly, establish clear contractual obligations and ensure that outsourced activities align with organizational objectives. This approach can help companies optimize resources, reduce operational costs, improve service quality and enhance overall organizational performance.

The study also recommends that cement manufacturing companies in Kenya should select reliable providers, establish clear performance targets and monitor service delivery regularly to ensure efficiency and accountability. This can enable companies to streamline operations, reduce costs, improve service quality and enhance overall organizational performance.

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