MARKETING INTELLIGENCE CAPABILITY AND PERFORMANCE OF LOGISTICS COMPANIES IN KENYA

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ABSTRACT

The purpose of this research was to examine the effect of marketing intelligence capability on firm performance with organizational culture as moderator variable in logistics companies in Kenya. Specifically, the research sought to determine the effect of marketing intelligence capability on performance of logistics companies in Kenya. The research also examined the moderating effect of organizational culture on the relationship between marketing intelligence capability and firm performance in logistics companies in Kenya. The theoretical framework is guided by the resource-based theory and dynamic capability theory. Drawing on the positivist research philosophy, the research employed a correlational cross-sectional survey design for testing noncausal relationships among variables. Simple random sampling technique was used to select a sample size of 272 logistics companies from a target population of 849 logistics companies in Kenya. A cross-sectional survey-based approach was used to collect primary data utilizing a self-administered structured questionnaire. With the help of 3 research assistants, the researcher utilized the drop and pick method to hand deliver the survey questionnaire. The collected data was processed and entered into the statistical package for social sciences (SPSS) version 26 to create a data sheet to be used for analysis. Data analysis utilized the descriptive statistics and inferential statistics. The correlation results showed that marketing intelligence capability had a positive and significant relationship with firm performance. The regression results showed that marketing intelligence capability had a positive and significant effect on performance in logistics companies in Kenya. The regression results indicated that organizational culture had significant moderating effect on the relationship between marketing intelligence capability and firm performance in logistics companies in Kenya. Managers and policy makers should to focus on strengthening marketing intelligence capability to foster the performance of logistics companies. Future research should examine the effect of marketing intelligence capability on firm performance in other sectors or contexts.

Key words: *Firm performance, Organizational culture, Marketing intelligence capability, Kenya*

INTRODUCTION

The logistics industry is developing rapidly at the global level. The growing demand for express delivery services is a key trend in the logistics delivery market (Martin, Hemmelmayr & Wakolbinger, 2021; Mutie, Odock, & Litondo, 2023). The global logistics delivery market is expected to grow at a compound annual growth rate of 8.5% from 2022 to 2027 (Melton, 2022). It is expected to reach $622.69 billion in revenue by 2029 (Research, 2023). Profit maximization is crucial for long-term success in the competitive logistics business industry (Yaiprasert & Hidayanto, 2024). However, the logistics delivery market is highly competitive, and the key players are constantly innovating to stay ahead of the competition (Kulkarni, Dahan, & Montreuil, 2022). The logistics business is a data-intensive industry with vast information, including route details, customer demand patterns, and fuel consumption metrics (Hasib *et al.*, 2023).

In the dynamic and cost-sensitive logistics industry, efficient cost management is essential for maintaining profitability and competitive advantage (Rucha & Ogollah, 2021; Yaiprasert & Hidayanto, 2024). The growing global awareness of sustainability and the recognition of interconnectedness across the world have elevated the significance of factors such as the logistics performance index, eco strategy, and sustainable performance within the logistics sector (Gunduz, Naji, & Maki, 2024). However, African countries experience lowest average logistics performance index score relative to its trading partner regions, particularly in terms of quality of trade- and transport-related infrastructures, customs, and border clearance, and competency and quality of logistics services (Ulkhaq, 2024).

An efficient logistics service is vital to world trade (Nzeki, Datche, Kising'u, & Mwirigi, 2024). The growth of consumer demand for logistics services and their high quality provokes an increase in freight turnover around the world, allowing logistics processes to improve (Binda & Bolibrukh, 2022). The development of logistics plays a serious integrating role in the modern economy, expanding the transport capabilities of regions, reducing costs, increasing the speed, safety, quality and efficiency of transport and logistics services and creating conditions for increasing the added value of produced and transported goods and services, which, ultimately, contributes to the growth of global economic efficiency (Barykin *et al.*, 2021). The developments of the countries in the logistics sector make them indispensable in world trade (Gürler, Özçalıcı, & Pamucar, 2024). However, the logistics delivery business is a complex and challenging industry (Mutua, 2021; Ouyang, Leung, & Huang, 2022).

The logistics firms are among the companies that have embraced supply chain performance and have made a lot of progress in terms of service delivery (Chao, 2023). However, the customers increasingly demand faster delivery times, which drives the demand for express delivery services (Daniel, 2023; Nogueira, de Assis Rangel, Croce, & Peixoto, 2022). As more and more people shop online, the demand for intelligent logistics delivery services is increasing (Yaiprasert & Hidayanto, 2024). Nevertheless, firms in the logistics industry face several issues and problems, including lost or damaged logistics, late deliveries, high costs, competition, regulations, and technology (Zhang, Zhou, Li, & Gong, 2023). The challenges can make it difficult for businesses to operate and stay competitive. However, by understanding the challenges, companies can make informed decisions about managing their businesses and succeeding (Tavakoli *et al.*, 2022).

The highly evolving economic environment requires from logistics companies' fast response and agile solutions (Kitzmann, Strimovskaya, & Serova, 2023). The application of intelligent algorithms to marketing strategies is revolutionizing how firms function (Hicham, Nassera, & Karim, 2023). Market intelligence involves collecting, analyzing, and utilizing market data to make informed business decisions (Alshawawreh, 2025). It performs the function of detecting, identifying, and solving problems that go beyond the past experience, and which the organization is going to face in the future (Rehman, 2025). Marketing intelligence is a decision-making tool for the management of companies and organizations (Hamour *et al.*, 2023). The marketing intelligence is one of the

most important and latest systems that guarantee institutions' ability to maintain their position in a market characterized by change and intense competition (Kaddour, 2021).

Marketing intelligence has been identified as an important factor in achieving the objectives and goals of the business (Shittu, Ishola, & Bamisaye, 2025). It provides an accurate estimate of the business's value and help distinguish it from competitors that use comparable systems (Emon & Khan, 2024). Existent literature posits that marketing intelligence helps the organization to keep abreast with stiff competition in the market (Hicham, Nassera, & Karim, 2023). Marketing intelligence is a fundamentally new management mechanism in organizations that provides information and analytical support for making anticipatory decisions and the company's preparedness for unpredictable challenges of the future (Vishnoi, Bagga, & Virmani, 2025). However, while the concept of marketing intelligence has attracted immense interest from researchers in the field of strategic management, the findings regarding the effect of marketing intelligence on firm performance have been inconsistent (Alzghoul, Khaddam, Abousweilem, Irtaimeh, & Alshaar, 2024).

Statement of the Problem

The government of Kenya views logistics industry as the promoters of economic growth and development toward the middle-level economy, as envisioned in the development blueprint of Vision 2030 (Kamau, 2022). However, the logistics service industry has in the recent past faced numerous challenges (Nombi, 2022; Nzeki *et al.*, 2024). The effectiveness and efficiency of the logistics services in Kenya has been an issue that all sub-sectors of the economy continue to grapple with (Kunambi & Zheng, 2024). The performance of the logistics industry has been unstable with many logistics firms shutting down their operations, which threatens the sector's contribution to the country's gross domestic product and employment rate (Ngesa & Eric, 2021). The performance in logistics firms is critical if the logistics sector has to make meaningful contribution to the gross domestic product and to the realization of the country Vision 2030. Nevertheless, only 35% of logistics firms cut above-average performance, while 65% of the logistics firms in Kenya portray abysmal performance (Mugambi & Machoka, 2023).

The logistics firms are among the companies that have embraced supply chain performance and have made a lot of progress in terms of service delivery (Chao, 2023). However, firms in the logistics industry face several issues and problems, including lost or damaged logistics, late deliveries, high costs, competition, regulations, and technology (Zhang *et al.*, 2023). The challenges can make it difficult for businesses to operate and stay competitive. Nonetheless, by understanding the challenges, companies can make informed decisions about managing their businesses and succeeding (Tavakoli *et al.*, 2022). The highly evolving economic environment requires from logistics companies' fast response and agile solutions (Kitzmann *et al.*, 2023). Marketing intelligence is an important element achieving competitive advantage (Alshawawreh, 2025). In today's dynamic and competitive business landscape, marketing intelligence is an effective tool for enhancing organizational performance (Yusuf, Adamu, Barde, & Abdullahi, 2024). However, while the concept of marketing intelligence has attracted immense interest from researchers in the field of strategic management, the findings regarding the effect of marketing intelligence on firm performance have been inconsistent (Alzghoul *et al.*, 2024). The general business problem is that without strategies for developing plans based on marketing intelligence, logistics leaders may fail to implement organizational roadmaps, resulting in deteriorated firm performance. The specific business problem is that some logistics leaders lack strategies to develop plans based on marketing intelligence for improving firm performance.

LITERATURE REVIEW

This section presents the theoretical frame work, conceptual framework, and review of literature on study variables, empirical review pertinent to the study.

Theoretical Framework

Theoretical framework is the lens through which the researcher uses to connect the literature with the study results and methodology (Bingham, Mitchell, & Carter, 2024). The theoretical framework is guided by the resource-based theory and dynamic capability theory.

Resource-Based Theory

The resource-based theory (RBT) of the firm (Barney, 1991; Penrose, 1959; Peteraf, 1993; Wernerfelt, 1984) posits that firms' competitiveness even in the same industry varies based on a firm's resources and capabilities (Zulkiffli *et al.*, 2022). The RBT of the firm provides an explanation as to why some organizations are performing better and how an organization can perform better (Ali *et. al.,* 2020; Wu, Yan, & Umair, 2023). The RBT of the firm assumes that firms gain competitive advantage through bundles of valuable and rare resources and sustain that advantage over time when such resources are difficult to imitate or non-substitutable by competitors (Sharma, Alkatheeri, Jabeen, & Sehrawat, 2022; Teece, 2023). Therefore, the RBT of the firm provides a relevant underpinning theory to examine the effect of marketing intelligence capability on firm performance with organizational culture as a moderator in logistics companies in Kenya.

Dynamic Capability Theory

The dynamic capability (DC) theory (Eisenhardt & Martin, 2000; Teece, Pisano, & Shuen, 1997) is an extension of the RBT of the firm (Chatterjee, Chaudhuri, & Vrontis, 2021; Chien & Tsai, 2021). The DC theory suggests that firms should develop the ability to build, integrate, and reconfigure resources and competencies to achieve competitive advantages (Ortiz, García, Gardó, & Vivas, 2021; van de Wetering & Besuyen, 2021). The DC theory is concerned with how firms can sustain and enhance their competitive advantage, notably when facing changing environments (Solem, Fredriksen, & Sørebø, 2023). Therefore, the DC theory is a relevant theoretical framework that explains the effect of marketing intelligence on performance of logistics companies in Kenya.

Conceptual Framework

The conceptual framework depicts that firm performance is conceptualized as the dependent variable. From the conceptual framework, marketing intelligence capability is conceptualized as the independent variables. The conceptual framework suggests that organizational culture is conceptualized as the moderating variable. Figure 1 presents the conceptual framework

Marketing Intelligence Capability
- Market Intelligence
- Price Intelligence
- Product Intelligence
- Customer Intelligence

Organizational Culture
- Clan Culture
- Hierarchy Culture
- Adhocracy Culture
- Market Culture

Firm Performance
- Return on Assets
- Return on Equity
- Employee Retention
- Customer Retention

Independent Variable   **Moderating Variable**   **Dependent Variable**
Figure 1: Conceptual Framework

Review of Literature on Variables

This section presents a review of the literature relevant to variables of the research.

Marketing intelligence Capability

Marketing intelligence one of the dimensions of competitive intelligence for market-oriented productive companies (Ragab & Mahmoud, 2023). It is a continuous process of understanding, analyzing, and evaluating an organization's internal and external environment associated with customers, competitors, and markets, then using the obtained information and knowledge to support the organization's marketing decisions (Odeh & Hikmat, 2021). Marketing intelligence focusses on features of competitive events taking place among the marketing mix of pricing, place, promotion, and product in order to understand the attractiveness of the market (Abdou, 2024; Ouma, 2022). It is a systematic way of gathering information to identify key trends or opportunities to help organizations grow and understand the nature of the market requirements to achieve competitive advantage (Zaidan, Sulaiman, Chin, Nadia, & Hasbullah, 2022). Existent literature posits that marketing intelligence refers to the use of internal and external information to make effective marketing decisions (Donthu, Kumar, & Pandey, 2021; Rosário, 2024; Salah & Alzghoul, 2024).

Marketing intelligence is information collected on the entire market and its insights help partners identify and design a competitive strategy for the company's products and services (Zaidan *et al.*, 2022). Extant literature suggests that market intelligence, product intelligence, supplier intelligence and customer intelligence are dimensions of marketing intelligence for market-oriented productive companies (Tanvir, Adeel & Masood, 2024; Ragab & Mahmoud, 2023). Marketing intelligence is the everyday information relevant to a firm's markets, gathered and analyzed specifically for the purpose of accurate and confident decision-making in determining market opportunity, market penetration strategy, and market development metrics (Zhang *et al.*, 2023). The marketing intelligence systems are designed to be used by marketing managers and often viewed by employees throughout an organization (Nawaz, Hameed, & Bhatti, 2023). Therefore, marketing intelligence determines the intelligence needed, collects it by searching the environment and delivers it to marketing managers who need it (Donthu *et al.*, 2021; Yusuf *et al.*, 2024).

Marketing intelligence is an important practice that needs to be regularly tracked to effectively conduct their business, close deals, and remain competitive in their industry (Garg, Das, Gaur, & Singhal, 2022). It helps shine a light on position, competitors, customers, growth opportunities and current or future problems a company could face (Johan, Sondari, & Satrio, 2024; Nawaz *et al.*, 2023). Marketing intelligence is the process through which firms understand customers, regulators, and competitors better, aside from creating new opportunities and forecasting changes to gain competitive advantage (Melo, Hernández-Maestro, & Muñoz-Gallego, 2022). It can provide better insights on customers and market needs to strengthen the position of the organization, products, or services across various channels (Karami & Hossain, 2024; Rehman, 2025; Zaidan *et al.*, 2022). Market intelligence generation, market intelligence dissemination, and responsiveness to market intelligence are dimensions of marketing intelligence (Yusuf *et al.*, 2024). The market intelligence concept calls more attention to demands for knowledge in organizations become more critical in the past few decades, concurrently with the occurrence of abundant disorganized data and information with the decision-makers (Donthu *et al.*, 2021).

Organizational Culture

Organizational culture is conceptualized in the literature as a socially intricate system of firm values, norms, and routines, which in turn has the propensity to generate causal ambiguity (Sassi, Frini, Chaieb, & Karaa, 2022). It consists of shared beliefs and values established by leaders and then communicated and reinforced through various methods (Osei, Papadopoulos, Acquaye, & Stamati, 2023), ultimately shaping employee perceptions,

behaviors and understanding (Bagga, Gera, & Haque, 2023). Existent literature posits that organizational culture is the rules, values, beliefs, and philosophy that dictates team members' behavior in a company (Assoratgoon & Kantabutra, 2023; Osman, Liu, & Wang, 2023). Therefore, an organization's culture defines the proper way to behave within the organization (Nanayakkara & Wilkinson, 2021). However, there is still no agreement on defining the cultural construct (Arena, Hines, & Golden III, 2023; Torsello, 2023; Haffar *et al.*, 2023).

The existing literature is replete with several conceptualizations or models of organizational culture (Chaieb & Karaa, 2022). The organizational culture inventory (Cooke & Szumal, 1993), the organizational culture profile (O'Reilly III, Chatman, & Caldwell, 1991) and the organizational culture assessment instrument (Cameron & Quinn, 2011) are some of the models of organizational culture (Arena *et al.*, 2023). The organizational culture assessment instrument (OCAI) is based on the competing values framework (CVF) that measures culture based on two primary dimensions (McNaughtan, Garcia, Schiffecker, Castiello-Gutierrez, & Li, 2023; Ojogiwa & Qwabe, 2023). In the CVF, the two primary dimensions are whether the organization is internally focused or externally oriented and whether the organization emphasizes stability and control or flexibility and discretion (Coelho, Mojtahedi, Kabirifar, & Yazdani, 2022). Therefore, the two dimensions of the CVF provide four opposing and competing quadrants, each reflecting a distinct set of essential criteria when assessing an organization (Boyd & Larson, 2023; Otike, Barát, & Kiszl, 2022).

Firm Performance
Firm performance is the set of financial and nonfinancial indicators which provide information on the degree of achievement of set goals and objectives (Úbeda-García, Claver-Cortés, Marco-Lajara, & Zaragoza-Sáez, 2021). It is the firm's ability to increase market share, operate efficiently, and improve services, products, or sales, innovative practices, and overall profit shares (Walter, 2021; Yoo, 2021). Firm performance is a core theme in strategic management research (Ahmed & Haruna, 2025).

Financial performance is a critical indicator of a company's overall financial health, highlighting its ability to generate profits, efficiently manage resources, and meet financial obligations. It reflects the monetary outcomes of a firm's policies and operations, encompassing the evaluation of a company's ability to achieve profitability, sustain growth, and honor its financial commitments (Alodat & Hao, 2025). The financial performance indicators are expressed in monetary terms (Saeed, Mohammed, Kumari, & Pandey, 2025). Financial performance is typically measured through key metrics such as return on assets (ROA), return on equity (ROE), and profit margins (Alqaraleh, 2023). However, the non-financial performance indicators such as customer retention, employee retention, are not expressed in monetary terms, and are characterized by greater subjectivity in regards to financial measures (Felix, Mirela, Vasile, & Iza, 2022). The non-financial performance measures provide managers with incentives to improve long-term financial performance (Grishunin, Suloeva, & Burova, 2022).

Empirical Review
Rahma and Mekimah (2023) examined the relationship between market intelligence and performance through organizational learning in business start-ups in Algeria. The findings indicated that there was a strong positive and statistically significant relationship between market intelligence and the performance of start-ups in Algeria. The study concluded that market intelligence has a significant relationship with the performance of start-ups.

Maina (2022) examined the influence of marketing intelligence activities on performance of indigenous banks in Nairobi, Kenya. The findings showed that marketing intelligence had a positive and significant relationship with performance of indigenous banks. The research indicated that marketing intelligence had a positive, but insignificant effect on firm performance.

Zaidan *et al.* (2022) examined the effect of marketing intelligence on competitive advantage in the banking industry in Iraq. The findings showed that marketing intelligence had a positive and significant effect on competitive advantage in the banking industry. The results suggested that marketing intelligence has a significant effect on competitive advantage in the banking industry.

Ouma (2022) examined the effect of market intelligence strategy and performance of microfinance banks in Nairobi City County, Kenya. The results indicated that market intelligence strategy had a positive and significant effect on firm performance. The findings showed that market intelligence strategy has a significant effect on firm performance.

Muzahid and Samputra (2023) examined the effect of marketing intelligence on competitive advantage of logistics firms in Indonesia. The findings indicated that marketing intelligence had a positive and significant effect on competitive advantage. The research showed that marketing intelligence has a significant effect on competitive advantage.

METHODOLOGY
This section presents the research methodology focusing on the research philosophy, research design, target population, sampling frame, sample size and sampling technique, data collection methods, data collection procedures, pilot study, data processing and analysis, and model specification.

Research Philosophy
The research was anchored on a positivist research philosophy which regards the world as made up of observable and measurable facts and assumes that there is an objective reality out there. The positivist research philosophy regards the world as made up of observable and measurable facts and assumes that there is an objective reality out there (Ma & Xie, 2023).

Research Design
Drawing on a quantitative non-experimental research methodology, the research utilized a correlational cross-sectional survey research design to examine the non-causal relationship between study variables. The design was appropriate for collecting data once from many individuals at a single point in time to test statistical relationships between two or more variables without the researcher controlling or manipulating any of them (Aryuwat *et al.*, 2024).

Target Population
The target population consisted of the 849 registered logistics firms in Kenya. The unit of analysis consisted of the logistics firm, while the unit of observation consisted of the chief executive officer of the logistics firm.

Sampling Frame
The sampling frame consisted of the list of the 849 registered logistics firms in Kenya. The sampling frame was as per the Kenya International Freight and Warehousing Association (KIFWA, 2022)'s data base as at 31st December, 2022.

Sample Size and Sampling Technique
This section presents the sample size and sampling techniques for this study.

Sample Size
The Yamane (1967)'s formula was used to determine the desired sample size at the 5% significance level:

$$n = \frac{N}{1+Ne^2)} \qquad n = \frac{849}{1+849(0.05)^2)} \quad = \quad 272$$

Where:

n = Sample Size
N = Target Population
e = level of precision (sample error)

Therefore, the minimum recommended sample size was 272 logistics firms in Kenya.

Sampling Techniques

The simple random sampling technique was used to select a sample size of 272 logistics companies from a target population of 849 logistics companies in Kenya. The choice of the sampling technique was justified by the homogeneous target population. The simple random sampling technique is a probability sampling technique that allows all the units in the population to have an equal chance of being selected from a homogeneous target population (Hair Jr *et al.*, 2021).

Data Collection Methods

A self-administered structured questionnaire was the means for collecting primary data. The data collection method was appropriate, because of its ability to collect a large amount of information in a reasonably quick span of time (Saunders & Kulchitsky, 2021).

Data Collection Procedures

A cross-sectional survey-based approach was used to collect primary data from a random sample of 272 logistics firms in Kenya. Through the drop and pick method, the researcher and three research assistants hand delivered the survey questionnaire to chief executive officers of the logistics firms in Kenya. A continuous follow up on responses was made by the researcher and research assistants.

Pilot Study

A pilot study was conducted to test the validity and reliability of the constructed survey questionnaire. The pilot study involved a pilot trial sample size of 32 logistics firms in Kenya. Extant literature suggests that at least 30 representative participants from the target population provides a reasonable minimum recommendation for a pilot study (Saunders & Kulchitsky, 2021; Snell *et al.*, 2021).

Data Processing and Analysis

The collected data was checked for accuracy, completeness and consistency. The data was coded, edited, and entered into the Statistical Package for Social Sciences (SPSS) version 26 to create a data sheet that was used for analysis. The descriptive statistics and inferential statistics were used for data analysis. The descriptive statistics were used to compute, summarize the data in respect to each of the study variables and describe the sample's characteristics. The Pearson's product moment correlation analysis was performed to confirm or deny the relationship between the study variables. A simple linear analysis was performed with firm performance as the dependent variable and marketing intelligence capability as the predictor variable. A hierarchical moderated multiple linear analysis was performed to determine whether the relationship between marketing intelligence capability and firm performance moderated by organizational culture in logistics firms in Kenya

Model Specification

The simple linear regressions model was specified as:

$Y = \beta_0 + \beta_1 X + \varepsilon$ ………………………………..…… Model 1

Where:

Y = Firm Performance

X = Marketing intelligence Capability

β_0 = Constant Term

$\beta_{1=}$ Regression Coefficients to be estimated

ε = Stochastic Error Term

The hierarchical moderated multiple linear regression models were specified as:

$Y = \beta_0 + \beta_2 X + \varepsilon$ …………….…………………………….… Equation 2.

$Y = \beta_0 + \beta_3 X + \beta_4 Z + \varepsilon$ …………...…………………….…….Equation 3.

$Y = \beta_0 + \beta_5 X + \beta_6 Z + \beta_7 X*Z + \varepsilon$ ………………….....……………Equation 4.

Where:

Y = Firm Performance (the dependent variable),

X = Marketing Intelligence Capability (the independent variable)

β_0 = Constant (the coefficient of the Y intercept)

$\beta_2 - \beta_6$ = Regression coefficients to be determined,

Z = Organizational Culture (the moderating variable),

X*Z = Marketing Intelligence Capability* Organizational Culture (the interactive variable),

ε = Stochastic Error Term

FINDINGS

This section presents the research findings and discussions.

Response Rate

Out of the 272 of survey questionnaires distributed for the main study, only 215 usable survey questionnaires were returned, Therefore, there was a valid response rate of 79.04%, which was sufficient for data analysis and reporting purposes. Existent literature posits that survey response rates of 70% or higher are needed if findings are to be considered generalizable (Ericson *et al.*, 2023). Table 1 presents the response rate results.

Table 1: Response Rate

Strata	Frequency	Response Rate
Response	215	79.04%
Non-Response	57	20.96%
Total	**272**	**100.00%**

Validity

This section presents the face validity, content validity, construct validity, convergent validity, and discriminant test results.

Face Validity

Face validity was ensured by conducting extensive literature survey on the research problem and strengthened by developing the survey questionnaire based on validated scales. The researcher shared the draft survey questionnaire with an expert panel of 5 judges in the field of strategic management to judge whether, on the face

of it, the questionnaire covered and measured the concepts it purported to measure. Results revealed that on the face of it, the draft survey questionnaire covered and measured the concepts it purported to measure. Their feedback related to the wording of some of the statements, the structure, and the layout of the survey questionnaire.

Content Validity

Content validity was ensured by employing adapted scales considered appropriate in previous studies. For content validity test, the researcher shared the draft survey questionnaire with an expert panel of five judges in the field of strategic management to judge whether, in the field of strategic management to judge whether, it measured the concepts it purported to measure and whether the relevant content domain for all the constructs had been covered. Responses provided by the expert panel judges were analyzed to establish the percentage representation using the content validity index. The results showed that the content validity index was 0.938 and the congruency percentage was 93.8%, signifying content validity. Table 2 presents the content validity test results.

Table 2: Content Validity Test Results

Variable	No. of Items	Content Validity Index	Congruency Percentage	Decision
Marketing intelligence Capability (X)	4	0.940	94.0%	Valid
Organizational Culture (Z)	4	0.946	94.6%	Valid
Firm Performance (Y)	4	0.936	93.6%	Valid
Entire Scale	**12**	**0.940**	**94.0%**	**Valid**

Sampling Adequacy Results

Sampling adequacy was measured using both the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity. Sampling adequacy was measured using both the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity. Results showed that the KMO Measure of Sampling Adequacy was 0.816, greater than 0.7, while the Bartlett's Test of Sphericity was significant (Approx. Chi-Square = 537.224; df = 6; $p \leq 0.001$), confirming the appropriateness of the data for factor analysis. A KMO statistic of greater than 0.7, and an associated Bartlett's p-value of less than or equal to 0.05, and an Anti-image correlation statistic of greater than 0.6 indicates that an adequate correlation exists to justify factor analysis (Hair *et al.*, 2021). Table 3 presents the KMO test of sampling adequacy and Bartlett's test of sphericity results.

Table 3: KMO Test of Sampling Adequacy and Bartlett's Test of Sphericity

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.816
Bartlett's Test of Sphericity	Approx. Chi-Square	537.224
	df	6
	Sig.	0.000

Reliability Test Results

The reliability test results indicated that the Cronbach's alpha coefficient of the entire scale (12 items) for the pilot study was 0.896, greater than the threshold of 0.7, suggesting acceptable internal consistency reliability. From the results, the Cronbach alpha coefficients of the 3 study variables ranged from 0.882 and 0.893, greater than the threshold of 0.7, suggesting acceptable internal consistency reliability. The general rule of thumb is that a Cronbach's alpha coefficient of 0.70 or greater indicates acceptable internal consistency reliability (Hair *et al.*, 2023). Table 4 presents the reliability test results.

Table 4: Reliability Test Results

Variable	n	No. of Items	No. of Items Deleted	Cronbach's Alpha (α)	Decision
Marketing intelligence Capability (X_1)	30	4	0	.882	Reliable
Organizational Culture (Z)	30	4	0	.891	Reliable
Firm Performance (Y)	30	4	0	.893	Reliable
Entire Scale	**30**	**12**	**0**	**.896**	**Reliable**

Diagnostic Results

Diagnostic tests were performed to investigate whether the assumptions of multiple linear regression analysis were met.

Normality Test Results

The normality test results indicated that the p-values of the Kolmogorov-Smirnov test and the Shapiro-Wilk test were greater than 0.05 ($p > 0.05$), suggesting that the data was assumed to approximately meet the normality assumptions. Extant literature suggests that if the p-value is less than or equal to the significance level, the decision is to reject the null hypothesis and conclude that the data do not follow a normal distribution (Hair *et al.*, 2021). Table 5 presents the normality test results.

Table 5: Normality Test Results

Variable	Kolmogorov-Smirnov[a]			Shapiro-Wilk			Decision
	Statistic	df	Sig.	Statistic	df	Sig.	
Marketing intelligence Capability (X_1)	.154	30	.170	.970	215	.176	Normal Distribution
Organizational Culture (Z)	.093	30	.200[*]	.973	215	.493	Normal Distribution
Firm Performance (Y)	.051	30	.090	.993	215	.207	Normal Distribution

Homoscedasticity Test Results

The Levene's test for equality of variance was performed for the homoscedasticity test. The presence of homoscedasticity or the absence of heteroscedasticity is an assumption most commonly tested using the Levene's test for equality of variance (Bell *et al.*, 2022)**.** The homoscedasticity test results showed that Levene's statistics for each of the study variables were non-significant with p-values greater than 0.05, suggesting that equal variance was assumed. Table 6 presents the homoscedasticity test results of the study variables.

Table 6: Homoscedasticity Test Results

Variable	Levene Statistic	df1	df2	sig	Remarks
Marketing Intelligence Capability (X)	4.85	1	215	.278	Equal Variance Assumed
Organizational Culture (Z)	3.66	1	215	.298	Equal Variance Assumed
Firm Performance (Y)	4.51	1	215	.265	Equal Variance Assumed

Autocorrelation Test Results

The Durbin-Watson test was performed for autocorrelation test. The autocorrelation test results showed that the Durbin-Watson test had a value of 1.946, falling within the optimum range of 1.5 to 2.5, suggesting that there was no autocorrelation detected in the in the residual values in the datasets (Hair *et al.*, 2021).

Table 7 presents the autocorrelation test results.

Table 7: Autocorrelation Test Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.679[a]	.461	.459	.257	
2	.877[b]	.769	.767	.169	
3	.880[c]	.774	.771	.167	1.946

a. Predictors: (Constant), Marketing Intelligence Capability (X)

b. Predictors: (Constant), Marketing Intelligence Capability (X), Organizational Culture (Z)

c. Predictors: (Constant), Marketing Intelligence Capability (X), Organizational Culture (Z), Marketing intelligence Capability* Organizational Culture (X*Z)

d. Dependent Variable: Firm Performance (Y)

Multicollinearity Test Results

The multicollinearity test results indicated that for each of the independent variables, the VIF values were less than 10, while the tolerance values were greater than 0.1, suggesting that there was no significant multicollinearity that needed to be corrected. Extant literature suggests that if the VIF value is higher than 10 or the tolerance value is lower than 0.1, there is significant multicollinearity that needs to be corrected (Davino *et al.*, 2022). Table 8 presents the multicollinearity test results

Table 8: Multicollinearity Test Results

Model		Collinearity Statistics		Decision
		Tolerance	VIF	
1	(Constant)			
	Marketing Intelligence Capability (X)	1.000	1.000	No Multicollinearity
2	(Constant)			
	Marketing Intelligence Capability (X)	.852	1.174	No Multicollinearity
	Organizational Culture (Z)	.653	1.532	No Multicollinearity
3	(Constant)			
	Marketing Intelligence Capability (X)	.848	1.179	No Multicollinearity
	Organizational Culture (Z)	.580	1.729	No Multicollinearity
	Marketing Intelligence Capability*Organizational Culture (X*Z)	.661	1.513	No Multicollinearity

a. Dependent Variable: Firm Performance (Y)

Correlation Results

The Pearson's product moment correlation analysis was performed to confirm or deny the relationships between the study variables. The correlation results showed that marketing intelligence capability had a moderate strong positive and significant relationship with firm performance (r = 0.679, p ≤ 0.05). The correlation results showed that marketing intelligence capability had a moderately strong positive and significant relationship with organizational culture (r = 0.589, p ≤ 0.05). The correlation results showed that organizational culture had a strong positive and significant relationship with firm performance (r = 0.849, p ≤ 0.05). Table 9 presents the Pearson's product moment correlation results.

Table 9: The Pearson's Product Moment Correlation Results

		X	Z	Y
Marketing Intelligence Capability (X)	Pearson Correlation	1		
	Sig. (2-tailed)			
	n	215		
Organizational Culture (Z)	Pearson Correlation	.589[**]	1	
	Sig. (2-tailed)	.000		
	n	215	215	
Firm Performance (Y)	Pearson Correlation	.679[**]	.849[**]	1
	Sig. (2-tailed)	.000	.000	
	n	215	215	215

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

Simple Linear Regression Results

A simple linear analysis was performed with firm performance as the dependent variable and marketing intelligence capability as the predictor variable.

Model Summary

From the model summary in table, the value of coefficient of correlation (R) was 0.679, suggesting that there was a strong positive correlation between the marketing intelligence capability and firm performance in logistics companies in Kenya. The value of coefficient of determination (R^2) was 0.461, suggesting that the overall model as a whole (the model involving constant, marketing intelligence capability) was able to significantly predict and explain approximately 46.1% of the variance in the performance of logistics companies in Kenya. The value of the adjusted R^2 was 0.459, suggesting that the overall model as a whole (the model involving constant, marketing intelligence capability) significantly predicted and explained 45.9% of the variance in the performance of logistics companies in Kenya. The value of the std. error of the estimate was 0.257, suggesting that other factors not included in the model in the current study that could also predict and explain the remaining 54.1% of the variance in the performance of logistics companies in Kenya. Therefore, there is in need for future research to discover the other variables not included in the model in the current study that also predict the remaining variance in the performance of logistics companies in Kenya. Table 10 presents the model summary results.

Table 10: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.679[a]	.461	.459	.257

a. Predictors: (Constant), Marketing Intelligence Capability (X)
b. Dependent Variable: Firm Performance (Y)

Analysis of Variance

From the Analysis of Variance (ANOVA) table, the overall model as a whole (the model involving constant, marketing intelligence capability), achieved a high degree of fit, as reflected by $R^2 = 0.461$, adj. $R^2 = 0.459$, F (1, 213) = 182.297, $p \leq 0.05$. The null hypothesis was that the overall model as a whole (the model involving constant, marketing intelligence capability) was not able to significantly predict the performance of logistics companies in Kenya. However, the alternative hypothesis was that the overall model as a whole (the model involving constant, marketing intelligence capability) was able to significantly predict the performance of logistics companies in Kenya. From the results, the null hypothesis was rejected in favor of the alternative

hypothesis. Therefore, the overall model as a whole (the model involving constant, marketing intelligence capability) was able to significantly predict the performance of logistics companies in Kenya. Table 11 presents

the ANOVA results

Table 11: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.053	1	12.053	182.297	.000[b]
	Residual	14.083	213	.066		
	Total	**26.135**	**214**			

a. Dependent Variable: Firm Performance (Y)
b. Predictors: (Constant), Marketing Intelligence Capability (X)

Simple Linear Regression Coefficients

From the coefficients table, when the unstandardized regression coefficients (B) were substituted to the simple linear regression model specified for the study, the final predictive equation was:

$$Y = 2.264 + 0.428X$$

The final predictive equation suggested that holding all factors in to account constant (marketing intelligence capability), constant at zero, the performance of logistics companies in Kenya would be 2.264. The final predictive equation suggested that with all other factors held constant, a unit increase in marketing intelligence capability would lead to 0.428 unit increase in the performance of logistics companies in Kenya. The regression results indicated that marketing intelligence capability had a positive and significant effect on the performance (β_1 = 0.679; t = 13.502; p ≤ 0.05) of logistics companies in Kenya. Table 12 presents the multiple regressions coefficients results.

Table 12: Regression Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.264	.121		18.739	.000
	Marketing Intelligence Capability (X)	.428	.032	.679	13.502	.000

a. Dependent Variable: Firm Performance (Y)

Moderated Multiple Regression Results

A moderated multiple linear regression analysis was performed to test the moderating effect of organizational culture in the relationship between marketing intelligence capability and performance of logistics companies in Kenya.

Moderated Multiple Regression Model Summary Results

From the model 1 summary table, the value of coefficient of correlation (R) was 0.679, suggesting that there was a strong positive correlation between the marketing intelligence capability and firm performance in logistics companies in Kenya. The value of coefficient of determination (R^2) was 0.461, suggesting that the overall model as a whole (the model involving constant, marketing intelligence capability) was able to significantly predict and explain approximately 46.1% of the variance in the performance of logistics companies in Kenya. The value of the adjusted R^2 was 0.459, suggesting that the overall model as a whole (the model involving constant, marketing intelligence capability) significantly predicted and explained 45.9% of the variance in the performance of logistics companies in Kenya. The value of the std. error of the estimate was 0.257, suggesting that other factors not included in the model in the current study that could also predict and explain the remaining 54.1% of the variance in the performance of logistics companies in Kenya.

From the model 2 summary table, it is clear that the value of the coefficient of correlation (R) was 0.877, suggesting a strong positive correlation between the predictor variables (marketing intelligence capability and organizational culture) and performance of logistics companies in Kenya. The value of the coefficient of determination (R^2) was 0.769, suggesting that the overall model (the model involving constant, marketing intelligence capability and organizational culture) could significantly predict and explain approximately 76.9% of the variance in the performance of logistics companies in Kenya. Moreover, the value of the adjusted R^2 was 0.767, suggested that the overall model (the model involving constant, marketing intelligence capability and organizational culture) significantly predicted approximately 76.7% of the variance in the performance of logistics companies in Kenya. Furthermore, the value of the Std. Error of the Estimate was 0.169, suggesting that there are other factors not included in the model that could predict the remaining 23.3% of the variance in the performance of logistics companies in Kenya.

From the model 3 summary table, it is clear that the value of the coefficient of correlation (R) was 0.880, suggesting a strong positive correlation between the predictor variables (marketing intelligence capability, organizational culture and marketing intelligence capability *organizational culture) and performance of logistics companies in Kenya. The value of the coefficient of determination (R^2) was 0.774, suggesting that the overall model (the model involving constant, marketing intelligence capability, organizational culture and marketing intelligence capability*organizational culture) as a whole could significantly predict and explain approximately 77.4% of the variance in the performance of logistics companies in Kenya. Moreover, the value of the adjusted R^2 was 0.771, suggesting that the overall model (the model involving constant, marketing intelligence capability, organizational culture and marketing intelligence capability*organizational culture) significantly predicted approximately 77.1% of the variance in the performance of logistics companies in Kenya. Furthermore, the value of the Std. Error of the Estimate was 0.167, suggesting that there are other factors not included in the model that could predict the remaining 22.9% of the variance in the performance of logistics companies in Kenya.

From the model summary table, the Durbin-Watson test statistic had a value of 1.946, falling within the optimum range of 1.5 to 2.5, suggesting that there was no severe autocorrelation detected in the in the residual values in the datasets. Generally, Durbin-Watson statistics falling within the optimum range of 1.5 to 2.5 indicate that there is no severe autocorrelation detected in the in the residual values in the datasets (Hair *et al.*, 2021). Table 13 presents the moderated multiple linear regression's model summary results.

Table 13: Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.679[a]	.461	.459	.257	
2	.877[b]	.769	.767	.169	
3	.880[c]	.774	.771	.167	1.946

a. Predictors: (Constant), Marketing Intelligence Capability (X)

b. Predictors: (Constant), Marketing Intelligence Capability (X), Organizational Culture (Z)

c. Predictors: (Constant), Marketing Intelligence Capability (X), Organizational Culture (Z), Marketing intelligence Capability* Organizational Culture (X*Z)

d. Dependent Variable: Firm Performance (Y)

Moderated Multiple Regression ANOVA[a] Results

From the ANOVA table results, the overall model 1 (the model involving constant, marketing intelligence capability), as a whole achieved a high degree of fit, as reflected by $R^2 = 0.461$, adj. $R^2 = 0.459$, $F (1, 213) = 182.297$, $p \leq 0.05$. The null hypothesis was that the linear combination of predictor variables was not able to significantly predict the performance of logistics companies in Kenya. However, the alternative hypothesis was that the linear combination of predictor variables was able to significantly predict the performance of logistics companies in Kenya. The regression results showed that the linear combination of predictor variables (marketing intelligence capability) was able to significantly predict the variance in the performance of logistics companies in Kenya in Kenya. The null hypothesis was rejected in favor of the alternative hypothesis. Therefore, the decision was that marketing intelligence capability significantly predict the performance of logistics companies in Kenya.

From the ANOVA table results, the overall model 2 (the model involving constant, marketing intelligence capability and organizational culture), as a whole achieved a high degree of fit, as reflected by $R^2 = 0.769$, adj. $R^2 = 0.767$, $F (2, 212) = 353.717$, $p \leq 0.05$. The null hypothesis was that the linear combination of predictor variables (marketing intelligence capability and organizational culture) was not able to significantly predict the performance of logistics companies in Kenya. However, the alternative hypothesis was that the linear combination of predictor variables (marketing intelligence capability and organizational culture) was able to significantly predict the performance of logistics companies in Kenya. The regression results showed that the linear combination of predictor variables (marketing intelligence capability and organizational culture) significantly predicted the variance in the performance of logistics companies in Kenya. The null hypothesis was rejected in favor of the alternative hypothesis. Therefore, the decision was that the linear combination of predictor variables (marketing intelligence capability and organizational culture) significantly predict performance of logistics companies in Kenya.

From the ANOVA table results, the overall model 3 (the model involving constant, marketing intelligence capability, organizational culture and marketing intelligence capability*organizational culture), as a whole achieved a high degree of fit, as reflected by $R^2 = 0.774$, adj. $R^2 = 0.771$, $F (3, 211) = 241.403$, $p \leq 0.05$. The null hypothesis was that the linear combination of predictor variables (marketing intelligence capability, organizational culture and marketing intelligence capability*organizational culture) was not able to significantly predict the performance of logistics companies in Kenya. However, the alternative hypothesis was that the linear combination of predictor variables (marketing intelligence capability, organizational culture and marketing intelligence capability*organizational culture) was able to significantly predict the performance of logistics companies in Kenya.

Table 14 presents the ANOVA results.

Table 14: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.053	1	12.053	182.297	.000[b]
	Residual	14.083	213	.066		
	Total	26.135	214			
2	Regression	20.109	2	10.055	353.717	.000[c]
	Residual	6.026	212	.028		
	Total	26.135	214			
3	Regression	20.239	3	6.746	241.403	.000[d]
	Residual	5.897	211	.028		
	Total	26.135	214			

a. Dependent Variable: Firm Performance (Y)

b. Predictors: (Constant), Marketing Intelligence Capability (X)

c. Predictors: (Constant), Marketing Intelligence Capability (X), Organizational Culture (Z)

d. Predictors: (Constant), Marketing Intelligence Capability (X), Organizational Culture (Z), Marketing intelligence Capability* Organizational Culture (X*Z)

Moderated Multiple Regression Coefficients^a Results

From the coefficients table, when the unstandardized regression coefficients (B) were substituted to the moderated multiple regression models specified for the study, the final predictive equations were:

$$Y = 2.264 + 0.428X \quad \text{.. Equation 1}$$

$$Y = 0.584 + 0.173X + 0.675Z \quad \text{.. Equation 2}$$

$$Y = -0.564 + 0.565X + 0.986Z + -0.104X*Z \quad \text{.. Equation 3}$$

The first final predictive equation suggested that holding all factors in to account constant (marketing intelligence capability), constant at zero, the performance of logistics companies in Kenya would be 2.264. The first final predictive equation suggested that with all other factors held constant, a unit increase in marketing intelligence capability would lead to 0.428 unit increase in the performance of logistics companies in Kenya.

The second final predictive equation suggested that holding all factors in to account constant (marketing intelligence capability and organizational culture), constant at zero, the performance of logistics companies in Kenya would be 0.584. The second final predictive equation suggested that with all other factors held constant, a unit increase in marketing intelligence capability would lead to 0.173 unit increase in the performance of logistics companies in Kenya. Moreover, the second final predictive equation suggested that with all other factors held constant, a unit increase in organizational culture would lead to 0.675 unit decrease in the performance of logistics companies in Kenya.

The third final predictive equation suggested that holding all factors in to account constant (marketing intelligence capability, organizational culture and marketing intelligence capability*organizational culture), constant at zero, the performance of logistics companies in Kenya would be -0.564. The third final predictive equation suggested that with all other factors held constant, a unit increase in marketing intelligence capability would lead to 0.565 unit increase in the performance of logistics companies in Kenya. The third final predictive equation suggested that with all other factors held constant, a unit increase in organizational culture would lead to 0.986 unit increase in the performance of logistics companies in Kenya. The third final predictive equation suggested that with all

other factors held constant, a unit increase in marketing intelligence capability*organizational culture would lead to 0.104 unit decrease in the performance of logistics companies in Kenya.

In the first step for the moderation testing, the independent variable (marketing intelligence capability) was regressed on the dependent variable (performance) of logistics companies in Kenya. Therefore, model 1 was fitted with marketing intelligence capability predicting performance of logistics companies in Kenya. The regression results indicated that marketing intelligence capability had positive and significant effect on the performance (β_2 = 0.679; t = 13.502; p $\leq$ 0.05) of logistics companies in Kenya.

In the second step for the moderation testing, the independent variable (marketing intelligence capability) and the moderating variable (organizational culture) were regressed on the dependent variable (performance) of logistics companies in Kenya. The regression results indicated that marketing intelligence capability had positive and significant effect on the performance (β_3 = 0.274; t = 6.712; p $\leq$ 0.05) of logistics companies in Kenya. The regression results indicated that organizational culture had a positive and significant effect on the performance (β_4 = 0.687; t = 16.835; p $\leq$ 0.05) of logistics companies in Kenya.

In the third step for the moderation testing, the independent variable (marketing intelligence capability) and the moderating variable (organizational culture) and the interaction term (marketing intelligence capability * organizational culture) were regressed on the dependent variable (firm performance) in logistics companies in Kenya. The regression results indicated that marketing intelligence capability had a positive and significant effect on the performance (β_5 = 0.896; t = 3.072; p $\leq$ 0.05) of logistics companies in Kenya. The regression results indicated that organizational culture had a positive and significant effect on the performance (β_6 = 1.004; t = 6.581; p $\leq$ 0.05) of logistics companies in Kenya. The regression results indicated that marketing intelligence capability*organizational culture (the interactive term) had a negative and significant effect on the performance (β_7 = -0.851; t = -2.154; p $\leq$ 0.05) of logistics companies in Kenya. Table 15 presents the moderated multiple linear regression coefficients results.

Table 15: Moderated Multiple Regression Coefficients[a] Results

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	2.264	.121		18.739	.000		
	Marketing Intelligence Capability (X)	.428	.032	.679	13.502	.000	1.000	1.000
2	(Constant)	.584	.127		4.582	.000		
	Marketing Intelligence Capability (X)	.173	.026	.274	6.712	.000	.852	1.174
	Organizational Culture (Z)	.675	.040	.687	16.835	.000	.653	1.532
3	(Constant)	-.564	.548		-1.030	.304		
	Marketing Intelligence Capability (X)	.565	.184	.896	3.072	.002	.848	1.179
	Organizational Culture (Z)	.986	.150	1.004	6.581	.000	.580	1.729
	Marketing Intelligence Capability*Organizational Culture (X*Z)	-.104	.048	-.851	-2.154	.032	.661	1.513

a. Dependent Variable: Firm Performance (Y)

Hypotheses Test Results

In this research, 2 null hypotheses were tested at 5% level of significance, $\alpha = 0.05$, $t = 1.960$, and 95% confidence level to statistically help draw acceptable and realistic inferences. Therefore, the decision rule was to reject the null hypothesis $H_0 i$ if the $P \leq 0.05$, and otherwise fail to reject the null hypothesis $H_0 i$ if the $P > 0.05$.

Hypothesis One Test Results

The first null hypothesis ($H_0 1$) predicted that marketing intelligence capability has no significant effect on firm performance in Kenya. The decision rule was to reject the null hypothesis $H_0 1$ if the $\beta_1 \neq 0$, $t \geq 1.960$, $P \leq 0.05$, and otherwise fail to reject the null hypothesis $H_0 1$ if the $\beta_1 = 0$, $t < 1.960$, $P > 0.05$. The correlation results showed that marketing intelligence capability had a moderate strong positive and significant relationship with firm performance ($r = 0.679$, $p \leq 0.05$). The simple linear regression results indicated that marketing intelligence capability had a positive and significant effect on firm performance ($\beta_1 = 0.679$; $t = 13.502$; $p \leq 0.05$) in logistics companies in Kenya. Therefore, $H_0 1$ was rejected in the favor of the $H_A 1$. Subsequently, the decision was that marketing intelligence capability has a significant effect on firm performance in logistics companies in Kenya.

Hypothesis Two Test Results

The $H_0 2$ predicted that organizational culture has no significant moderating effect on the relationship between marketing intelligence capability and firm performance in Kenya. The decision rule was to reject the $H_0 2$ if the $\beta_i \neq 0$, $t \geq 1.960$, $P \leq 0.05$, and otherwise fail to reject the $H_0 2$ if the $\beta_i = 0$, $t < 1.960$, $P > 0.05$. A moderated multiple linear regression analysis was performed to test the moderating effect of organizational culture in the relationship between marketing intelligence capability and performance of logistics companies in Kenya.

In the first step for the moderation testing, the independent variable (marketing intelligence capability) was regressed on the dependent variable (firm performance) in logistics companies in Kenya. The regression results indicated that marketing intelligence capability had positive and significant effect on the performance ($\beta_2 = 0.679$; $t = 13.502$; $p \leq 0.05$) of logistics companies in Kenya. Therefore, there was a significant relationship between marketing intelligence capability and firm performance that could be moderated.

In the second step for the moderation testing, the independent variable (marketing intelligence capability) and the moderating variable (organizational culture) were regressed on the dependent variable (firm performance) in logistics companies in Kenya. The regression results indicated that marketing intelligence capability had positive and significant effect on the performance ($\beta_3 = 0.274$; $t = 6.712$; $p \leq 0.05$) of logistics companies in Kenya. The regression results indicated that organizational culture had a positive and significant effect on the performance ($\beta_4 = 0.687$; $t = 16.835$; $p \leq 0.05$) of logistics companies in Kenya. Therefore, organizational culture could moderate the significant relationship between marketing intelligence capability and firm performance.

In the third step for the moderation testing, the independent variable (marketing intelligence capability) and the moderating variable (organizational culture) and the interaction term (marketing intelligence capability * organizational culture) were regressed on the dependent variable (firm performance) in logistics companies in Kenya. The regression results indicated that the predictor variable (marketing intelligence capability) had a positive and significant effect on the performance ($\beta_5 = 0.896$; $t = 3.072$; $p \leq 0.05$) of logistics companies in Kenya. The regression results indicated that the moderating variable (organizational culture) had a positive and significant effect on the performance ($\beta_6 = 1.004$; $t = 6.581$; $p \leq 0.05$) of logistics companies in Kenya. The regression results indicated that the interactive term (marketing intelligence capability*organizational culture) had a negative and significant effect on the performance ($\beta_7 = -0.851$; $t = -2.154$; $p \leq 0.05$) of logistics companies in Kenya. Therefore, the $H_0 2$ was rejected. Consequently, the decision was that organizational culture had a

significant moderating effect on the relationship between marketing intelligence capability and the performance of logistics companies in Kenya.

Table 16 presents the hypotheses test results.

Table 16: Hypotheses Test Results

Hypothesis				β	t	Sig.	Decision
$H_0 1$: Marketing intelligence capability has no significant effect on firm performance in Kenya.	Marketing intelligence capability	→	Firm Performance	.679	13.502	.000	Reject the $H_0 1$
$H_0 2$: Organizational culture has no significant moderating effect on the relationship between marketing intelligence capability and firm performance in Kenya.	Marketing intelligence capability	→	Firm Performance	.896	3.072	.002	Reject the $H_0 2$
	Organizational culture	→	Firm Performance	1.004	6.581	.000	
	Marketing intelligence capability * Organizational culture	→	Firm Performance	-.851	-2.154	.032	

Discussions

The purpose of this quantitative correlational study was to examine the effect of marketing intelligence capability on firm performance with organizational culture as a moderator in logistics companies in Kenya. Specifically, the research sought to determine the effect of marketing intelligence capability on firm performance in logistics companies in Kenya. The correlation results indicated that marketing intelligence capability had a positive and significant relationship with firm performance in logistics companies in Kenya. The regression results showed that marketing intelligence capability on firm performance in logistics companies in Kenya. The findings are consistent with the results of prior studies (Muzahid & Samputra, 2023; Ouma, 2022; Rahma & Mekimah, 2023). However, the results are inconsistent with the results of previous studies (Maina, 2022; Maina & Nyaribo, 2023) which indicated that marketing intelligence has an insignificant direct effect on firm performance.

Specifically, the research also sought to examine the moderating effect of organizational culture in the relationship between marketing intelligence capability and firm performance in logistics companies in Kenya. The results indicated that organizational culture had significant moderating effect on the relationship between marketing intelligence capability and firm performance in logistics companies in Kenya. The findings are consistent with the results of previous studies (Waithaka, 2023). However, the results are inconsistent with the results of previous studies (Indrajaya, 2023; Indrajaya & Indrajaya, 2022).

SUMMARY, CONCLUSION AND RECOMMENDATIONS

The purpose of this quantitative correlational study was to investigate the effect of marketing intelligence capability on firm performance and the moderating effect of organizational culture on the relationship between marketing intelligence capability and firm performance in Kenya. Specifically, the research sought to establish the effect of marketing intelligence capability on firm performance in logistics companies in Kenya. The research found that marketing intelligence capability had a positive and significant effect on firm performance in logistics

companies in Kenya. Additionally, the research assessed the moderating effect of organizational culture on the relationship between marketing intelligence capability and firm performance in Kenya. The research found that organizational culture had significant moderating effect on the relationship between marketing intelligence capability and firm performance in Kenya.

CONCLUSIONS AND RECOMMENDATIONS

The purpose of this research was to examine the effect of marketing intelligence capability on firm performance and the moderating effect of organizational culture on the relationship between strategic and firm performance in Kenya. Specifically, the research sought to establish the effect of marketing intelligence capability on firm performance in logistics companies in Kenya. The research found that marketing intelligence capability had a positive and significant effect on firm performance in logistics companies in Kenya. Therefore, the first conclusion was that has a positive and significant effect on firm performance. Additionally, the research sought to assess the moderating effect of organizational culture on the relationship between marketing intelligence capability and firm performance in logistics companies in Kenya. The research found that organizational culture had a significant moderating effect on the relationship between marketing intelligence capability and firm performance in logistics companies in Kenya. Therefore, the second conclusion was that organizational culture has significant moderating effect on the relationship between marketing intelligence capability and firm performance.

From the findings of this research, the research recommends that managers to foster the performance of logistics companies.

From the findings of this research, the research recommends that policy makers within the travel and tourism sector should to revise polices so that are more appropriate for the development of marketing intelligence capability namely strategic visioning capability, strategic intuition capability, strategic insight capability and strategic foresight capability for logistics companies to foster firm performance in the logistics sector.

5.3.3 Limitations and Future Research

This research paper generates novel insights into how marketing intelligence capability predict firm performance in logistics sector. However, the current research has a number of limitations, that need to be taken into consideration. First, the research was limited to the logistics companies in Kenya. Caution should be taken when attempting to generalize the results beyond the logistics sector or in other regions. Therefore, future research could examine the influence of marketing intelligence capability on firm performance in other sectors or contexts.

Second, as the research relied on a cross-sectional survey design, no inferences about the causality of relationships can be made. Therefore, future researchers should conduct a longitudinal study to examine the influence of marketing intelligence capability on firm performance in other sectors or contexts.

REFERENCES

Ababseh, N. K. (2022). *Business intelligence adoption and its impact on Jordanian commercial banks performance* (Doctoral dissertation, University of Petra (Jordan).

Abdelmawgoud, M. T. A., Ebrahem, M. A. E., & Moftah, K. A. K. (2023). Analyzing the dimensions of strategic intelligence in hotel chains in Egypt. *Minia Journal of Tourism and Hospitality Research MJTHR*, *15*(3), 53-85.

Abdou, S. A. H. A. (2024). The impact of marketing intelligence adoption on banking profitability: Evidence from Egypt. *International Journal of Applied Economics, Finance and Accounting*, *18*(1), 63-76.

Abdul Mohsin, A. M., & Sumarjan, N. (2022). The mediating role of competitive intelligence on organizational culture and hotel performance: A proposed theoretical framework/Dian Aszyanti Atirah Mohd. Asri, Ainul Mohsein Abdul Mohsin and Norzuwana Sumarjan. *Jurnal Intelek*, *17*(2), 35-51.

Abela, A. (2023). Impact of foreign direct investments on the hospitality sectors in Ethiopia. *International Journal of Modern Hospitality and Tourism*, *3*(1), 18-28.

Abubakar, A., & Abdullah, H. H. (2021). Building marketing intelligence capability with the internet of things for competitiveness: Empirical evidence of selected retail companies in Oman. *Journal for Global Business Advancement*, *14*(6), 750-767.

Adelaide, E., & Akpan, E. (2015). Competitive intelligence and business performance: A study of selected firms in Sub-Saharan Africa. Oak Journal of Interdisciplinary Studies, 3(1), 18-37.

Adiguzel, Z. (2020). Strategic approach to business intelligence and its impacts on organizational performance. In *Handbook of research on strategic fit and design in business ecosystems* (pp. 289-310). IGI Global.

Agha, S., Atwa, E., & Kiwan, S. (2021). Investigating the impact of strategic intelligence on firm performance and the mediator role of strategic flexibility. *Modern Perspectives in Economics, Business and Management*, *3*(1), 13-25.

Ahakhatreh, L. M., & *Al-Hawary*, S. I. S. (2022). Impact of business intelligence capabilities on the competitive performance of Islamic banks in Jordan. *Journal of Hunan University Natural Sciences*, *49*(10), 206-217.

Ahmad, A., Desouza, K. C., Maynard, S. B., Naseer, H., & Baskerville, R. L. (2020a). How integration of cyber security management and incident response enables organizational learning. *Journal of the Association for Information Science and Technology*, *71*(8), 939-953.

Ahmadi, M., Baei, F., Hosseini-Amiri, S. M., Moarefi, A., Suifan, T. S., & Sweis, R. (2020b). Proposing a model of manager's strategic intelligence, organization development, and entrepreneurial behavior in organizations. *Journal of Management Development*, *39*(4), 559-579.

Ahmed, A. I., & Haruna, M. A. (2025). Effect of capital adequacy, foreign exchange rate and operational risks on financial performance of selected listed deposit money banks in Nigeria. *UMM Journal of Accounting and Financial Management*, *5*(1), 54-84.

Ahmed, S. F., Abduljabbar, B. T., & Hussein, A. A. A. (2021). Strategic intelligence and sustainable competitive advantage of small and medium enterprises: An exploratory study in Iraq. *Academy of Strategic Management Journal*, *20*, 1-12.

Alamer, A. (2022). Exploratory structural equation modeling (ESEM) and bifactor ESEM for construct validation purposes: Guidelines and applied example. *Research Methods in Applied Linguistics*, *1*(1), 100005.

Alamer, A., & Alsagoafi, A. (2023). Construct validation of the revised Metacognitive Awareness of Reading Strategies Inventory (MARSI-R) and its relation to learning effort and reading achievement. *Studies in Second Language Learning and Teaching*, *13*(1), 125-149.

Al-Fawaeer, M., & Alkhatib, A. W. (2020). Investigating the moderating role of teamwork culture on strategic intelligence and operational performance. *Economics and Management*, *17*(2), 124-145.

Ali, B. J., & Anwar, G. (2021). Measuring competitive intelligence network and its role on business performance. *International Journal of English Literature and Social Sciences*, *6*(2), 1-17.

Aljarrah, M., Hatamleh, A., Zawaideh, F. H., Al-kaseasbeh, H. M., & Alkhazali, A. R. (2023). The impact of business intelligence on organizational excellence: The mediating role of organizational citizenship behavior. *International Journal of Professional Business Review*, *8*(5), e01694-e01694.

ALmahasneh, Y. A. S., Rahman, M. S. B., & Omar, K. B. (2022). Idealized influence, inspirational motivation, organizational culture and organizational performances. *Journal of Southwest Jiaotong University*, *57*(1), 1-19.

Al-Nouri, L. M. A. (2020). The impact of marketing intelligence on achieving competitive performance: A case study at the Directorate of Communications and Basra Post. *Economic Sciences*, *15*(57).

Alodat, A. Y., & Hao, Y. (2025). Environmental, social and governance (ESG) disclosure and firm performance: Moderating role of board gender diversity and sustainability committee. *Sustainable Development*, *33*(1), 636-651.

Al-Okaily, A., Teoh, A. P., & Al-Okaily, M. (2023). Evaluation of data analytics-oriented business intelligence technology effectiveness: an enterprise-level analysis. *Business Process Management Journal*, *29*(3), 777-800.

Alshammakh, A. M., & Azmin, A. A. (2020). The relationship between competitive intelligence processes and hotels' performance: Evidence from Malaysia. *Management*, *6*(26), 27-46.

Alshammakh, A. M., & Azmin, A. A. (2021a). The impact of competitive intelligence acquisition and utilization on hotels'performance: Evidence from Malaysia. *Management*, *6*(26), 1-26.

Alshammakh, A. M., & Azmin, A. A. (2021b). The relationship between competitive intelligence processes and hotels'information quality: Evidence from Malaysia. *Journal of Tourism Hospitality and Environment Management*, *6*(24), 34-57.

Alshawawreh, A. R. E. (2025). *The impact of business intelligence on customer loyalty in telecommunications companies* (Doctoral dissertation, Universidad de Granada).

Alyan, M. A. A. (2022). The impact of business intelligence on employee empowerment, the mediating role of information and communication technology (ICT), a field study on Jordanian Universities-Zarqa Governorate. *Diss. Zarqa University*.

Al-Zaqeba, M. A. A., & Al-Rashdan, M. T. (2020). Extension of the TPB in tax compliance behavior: The role of moral intensity and customs tax. *Int. J. Sci. Technol. Res*, *9*(4), 227-232.

Alzghoul, A., Khaddam, A. A., Abousweilem, F., Irtaimeh, H. J., & Alshaar, Q. (2024). How business intelligence capability impacts decision-making speed, comprehensiveness, and firm performance. *Information Development*, *40*(2), 220-233.

Arena, M., Hines, S., & Golden III, J. (2023). The three Cs for cultivating organizational culture in a hybrid world. *Organizational Dynamics*, *52*(1), 100958.

Aryuwat, P., Holmgren, J., Asp, M., Lövenmark, A., Radabutr, M., & Sandborgh, M. (2024). Factors associated with resilience among thai nursing students in the context of clinical education: A cross-sectional study. *Education Sciences*, *14*(1), 78.

Assoratgoon, W., & Kantabutra, S. (2023). Toward a sustainability organizational culture model. *Journal of Cleaner Production*, 136666.

Bagga, S. K., Gera, S., & Haque, S. N. (2023). The mediating role of organizational culture: Transformational leadership and change management in virtual teams. *Asia Pacific Management Review*, *28*(2), 120-131.

Barykin, S. E., Kapustina, I. V., Korchagina, E. V., Sergeev, S. M., Yadykin, V. K., Abdimomynova, A., & Stepanova, D. (2021). Digital logistics platforms in the BRICS countries: comparative analysis and development prospects. *Sustainability*, *13*(20), 11228.

Binda, J., & Bolibrukh, L. (2022). Pandemic covid-19 as a catalyst of the global logistic crisis and digitalization systems. *Scientific Journal of Bielsko-Biala School of Finance and Law*, *26*(4), 91-95.

Bingham, A. J., Mitchell, R., & Carter, D. S. (2024). *A practical guide to theoretical frameworks for social science research*. Taylor & Francis.

Boyd, N. M., & Larson, S. (2023). Organizational cultures that support community: Does the competing values framework help us understand experiences of community at work?. *Journal of Community Psychology*, *51*(4), 1695-1715.

Cameron, K. S., & Quinn, R. E. (1998). Diagnosing and Changing Organizational Culture: Based on the Competing Values Framework Addison-Wesley Series on Organization Development. *N. York*.

Chao, A. M. (2023). *Government trade policies and supply chain performance of logistics firms based in Mombasa County, Kenya* (Doctoral dissertation, Kenyatta University).

Coelho, C., Mojtahedi, M., Kabirifar, K., & Yazdani, M. (2022). Influence of Organisational Culture on Total Quality Management Implementation in the Australian Construction Industry. *Buildings*, *12*(4), 496.

Cooke, R. A., & Szumal, J. L. (1993). Measuring normative beliefs and shared behavioral expectations in organizations: The reliability and validity of the Organizational Culture Inventory. *Psychological reports*, *72*(3_suppl), 1299-1330.

Cooper, C., Pereira, V., Vrontis, D., & Liu, Y. (2023). Extending the resource and knowledge-based view: Insights from new contexts of analysis. *Journal of Business Research*, *156*, 113523.

Daniel, M. M. (2023). Green logistics practices, firm characteristics and firm performance of logistics firms in Kenya. *African Journal of Business and Management (AJBUMA)*, *8*(1), 92-114.

Donthu, N., Kumar, S., & Pandey, N. (2021). A retrospective evaluation of Marketing Intelligence and Planning: 1983–2019. *Marketing Intelligence & Planning*, *39*(1), 48-73.

Emon, M. M. H., & Khan, T. (2024). A systematic literature review on sustainability integration and marketing intelligence in the era of artificial intelligence. *Review of Business and Economics Studies*, *12*(4), 6-28.

Ericson, A., Bonuck, K., Green, L. A., Conry, C., Martin, J. C., & Carney, P. A. (2023). Optimizing survey response rates in graduate medical education research studies. *Family medicine*, *55*(5), 304.).

Felix, P., Mirela, P., Vasile, A. J., & Iza, G. (2022, March). Non-financial performance of energy companies listed on the Bucharest stock exchange and relevance for stakeholders. In *Digitalization and Big Data for Resilience and Economic Intelligence: 4th International Conference on Economics and Social Sciences, ICESS 2021, Bucharest, Romania* (pp. 183-201). Cham: Springer International Publishing.

Grishunin, S., Suloeva, S., & Burova, E. (2022). Development of risk management mechanism and the system of risk metrics to evaluate and enhance the long-term orientation of the strategies of non-financial companies. *Risks*, *10*(9), 182-198.

Gunduz, M., Naji, K. K., & Maki, O. (2024). Evaluating the performance of campus facility management through structural equation modeling based on key performance indicators. *Journal of Management in Engineering*, *40*(1), 04023056.

Gürler, H. E., Özçalıcı, M., & Pamucar, D. (2024). Determining criteria weights with genetic algorithms for multi-criteria decision making methods: The case of logistics performance index rankings of European Union countries. *Socio-Economic Planning Sciences*, *91*, 101758.

Haffar, M., Al-Karaghouli, W., Djebarni, R., Al-Hyari, K., Gbadamosi, G., Oster, F., ... & Ahmed, A. (2023). Organizational culture and affective commitment to e-learning'changes during COVID-19 pandemic: The underlying effects of readiness for change. *Journal of Business Research*, *155*, 113396.

Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial least squares structural equation modeling (PLS-SEM) using R: A workbook* (p. 197). Springer Nature.

Hair, J., & Alamer, A. (2022). Partial least squares structural equation modeling (PLS-SEM) in second language and education research: Guidelines using an applied example. *Research Methods in Applied Linguistics*, *1*(3), 100027.

Hamour, H., ALensou, J., Abuzaid, A., Alheet, A., Madadha, S., & Al-Zaqeba, M. (2023). The effect of strategic intelligence, effective decision-making and strategic flexibility on logistics performance. *Uncertain Supply Chain Management*, *11*(2), 657-664.

Hanif, N., Arshed, N., & Farid, H. (2022). Competitive intelligence process and strategic performance of banking sector in Pakistan. *International Journal of Business Information Systems*, *39*(1), 52-75.

Hasib, K. M., Islam, M. R., Sakib, S., Akbar, M. A., Razzak, I., & Alam, M. S. (2023). Depression detection from social networks data based on machine learning and deep learning techniques: An interrogative survey. *IEEE Transactions on Computational Social Systems*, *10*(4), 1568-1586.

Hicham, N., Nassera, H., & Karim, S. (2023). Strategic framework for leveraging artificial intelligence in future marketing decision-making. *Journal of Intelligent Management Decision*, *2*(3), 139-150.

Indrajaya, A. R. (2023). *The implication of business intelligence and organizational capability toward organizational performance with moderating variable culture* (Doctoral dissertation, Sekolah Tinggi Manajemen Ipmi).

Indrajaya, A. R., & Indrajaya, A. N. (2022). The implication of business intelligence toward organizational performance with moderating variable of culture and capability. *In the 5 th International CEO Communication, Economics, Organization & Social Sciences Congress* (pp. 629-637). CEO Congress.

Isichei, E. E., Nnia, I., Emmauel, A. K., Igwe, A., Ibe, C. B., & Peterside, G. I. D. (2023). Linking competitive intelligence, learning orientation and export performance of SMEs. *SAGE Open*, *13*(2), 21582440231184979.

Johan, A., Sondari, T., & Satrio, N. (2024). Assess the role of marketing intelligence and network capabilities in product innovation. *Jurnal Focus Manajemen UPMI*, *1*(01), 1-13.

Kamau, A. W. (2022). *Determinants of ease of doing business among the logistics firms in Kenya* (Masters research project, University of Nairobi).

Karami, M., & Hossain, M. (2024). Marketing intelligence and small firms' performance: the role of entrepreneurial alertness and effectuation. *Marketing intelligence & planning*, *42*(1), 168-189.

Kitzmann, H., Strimovskaya, A., & Serova, E. (2023, December). Application of Artificial Intelligence Methods for Improvement of Strategic Decision-Making in Logistics. In *International Working Conference on Transfer and Diffusion of IT* (pp. 132-143). Cham: Springer Nature Switzerland.

Kulkarni, O., Dahan, M., & Montreuil, B. (2022). Resilient hyperconnected parcel delivery network design under disruption risks. *International Journal of Production Economics*, *251*, 108499.

Kunambi, M. M., & Zheng, H. (2024). Contextual comparative analysis of Dar es Salaam and Mombasa Port Performance by Using a Hybrid DEA (CVA) Model. *Logistics*, *8*(1), 2-22.

Maina, K. M. (2022). *Influence of competitive intelligence activities on performance of indigenous banks in Nairobi, Kenya* (Masters dissertation, KCA University).

Maina, K. M., & Nyaribo, W. M. (2023). Influence of competitive intelligence on the performance of indigenous banks in Nairobi, Kenya. *Journal of Economics, Management and Trade*, *29*(9), 10-22.

Martin, F., Hemmelmayr, V. C., & Wakolbinger, T. (2021). Integrated express shipment service network design with customer choice and endogenous delivery time restrictions. *European Journal of Operational Research*, *294*(2), 590-603.

McNaughtan, J., Garcia, H., Schiffecker, S., Castiello-Gutierrez, S., & Li, X. (2023). "Architects of change or its victim": University presidents' perspectives on the role of competing values during the COVID-19 Crisis. *The Journal of Higher Education*, 1-27.

Melo, A. J., Hernández-Maestro, R. M., & Muñoz-Gallego, P. A. (2022). Effects of market intelligence generation, online reviews, and management response on the business performance of rural accommodation establishments in France. In *Cultural Sustainable Tourism: Strategic Planning for a Sustainable Development* (pp. 105-119). Cham: Springer International Publishing.

Melton, J. (2022). Global parcel volume to grow at 8.5% CAGR through 2027. *Digital Commerce*, *360*.

Mugambi, S. G., & Machoka, P. (2023). Influence of strategic procurement practices on performance of logistics firms in Nairobi City County. *International Journal of Management and Business Research*, *5*(1), 143-155.

Mutie, M. D., Odock, S., & Litondo, K. (2023). Effect of green logistics practices on performance of logistics firms in Kenya. *African Journal of Business and Management (AJBUMA)*, *10*(4), 20-35.

Mutua, D. M. (2021). *Green logistics practices and performance of logistics firms in Kenya* (Doctoral thesis, University of Nairobi)

Muzahid, A., & Samputra, P. L. (2023). Pengaruh pemanfaatan competitive intelligence terhadap daya saing produk Indonesia. *Cakrawala Repositori IMWI*, *6*(3), 494-503.

Nanayakkara, K., & Wilkinson, S. (2021). Organisational culture theories: Dimensions of organisational culture and office layouts. In *A Handbook of Theories on Designing Alignment between People and the Office Environment* (pp. 132-147). Routledge.

Nawaz, M., Hameed, W. U., & Bhatti, M. I. (2023). Integrating business and market intelligence to expedite service responsiveness: Evidence from Malaysia. *Quality & Quantity*, 1-22.

Ngesa, C. A., & Eric, N. (2021). Effect of transportation management on the performance of logistics firms in Nairobi County, Kenya. *International Journal of Social Sciences and Information Technology*, *9*(5), 161-171.

Nnabuife, E., Onwuchekwa, F., & Joda, O. O. (2023). Corporate intelligence and operative response of deposit money banks in North-East, Nigeria. *International Journal of Public Administration and Management Research*, *9*(3), 73-88.

Nogueira, G. P. M., de Assis Rangel, J. J., Croce, P. R., & Peixoto, T. A. (2022). The environmental impact of fast delivery B2C e-commerce in outbound logistics operations: A simulation approach. *Cleaner Logistics and Supply Chain*, *5*, 100070.

Nombi, J. (2022). Regulatory practices and logistics service delivery: A Case of Kenya's clearing and forwarding industry (Masters dissertation, Kenyatta University).

Nzeki, D. M., Datche, E. A., Kising'u, T. M., & Mwirigi, F. M. (2024). Competitor intelligence capability and firm performance in logistics companies in Kenya. *Reviewed Journal International of Business Management*, *5*(1), 248-282.

Odeh, A. H. A., & Hikmat, A. M. B. (2021). Marketing intelligence as a prerequisite of customer satisfaction: An empirical evidence in the five-star hotels in Jordan. *International Journal of Environmental Science*, *6*.

Ojogiwa, O. T., & Qwabe, B. R. (2023). The practicability of competing value framework as a stride towards public service delivery improvement in the health sector. *Transylvanian Review of Administrative Sciences*, *19*(69), 101-117.

O'Reilly III, C. A., Chatman, J., & Caldwell, D. F. (1991). People and organizational culture: A profile comparison approach to assessing person-organization fit. *Academy of management journal*, *34*(3), 487-516.

Osei, M. B., Papadopoulos, T., Acquaye, A., & Stamati, T. (2023). Improving sustainable supply chain performance through organisational culture: A competing values framework approach. *Journal of Purchasing and Supply Management*, *29*(2), 100821.

Osman, A. M., Liu, Y., & Wang, Z. (2023). Influence of organizational culture on construction firms' performance: The mediating roles of intelligence and marketing capabilities. *Buildings*, *13*(2), 308.

Otike, F., Barát, Á. H., & Kiszl, P. (2022). Intelligence strategies in academic libraries using business entrepreneurial theories: Analysis of competing values framework and disruptive intelligence theory. *The Journal of Academic Librarianship*, *48*(4), 102537.

Ouma, P. (2022). *Competitive intelligence strategy and performance of regulated microfinance banks in Nairobi City County* (Doctoral thesis, Kenyatta University).

Ouyang, Z., Leung, E. K. H., & Huang, G. Q. (2022). Community logistics for dynamic vehicle dispatching: The effects of community departure "time" and "space". *Transportation Research Part E: Logistics and Transportation Review*, *165*, 102842.

Ragab, S. I., & Mahmoud, A. F. (2023). Dimensions of marketing intelligence an exploratory study of the opinions of a number of employees of the Green Fields Dairy Production Company Ltd. *NTU Journal for Administrative and Human Sciences (JAHS)*, *3*(2), 169-193.

Rehman, S. U. (2025). SMEs internationalization! Market intelligence and entrepreneurial orientation influence on international performance: a moderation model. *Business Process Management Journal*, *31*(1), 54-73.

Research, S. M. (2023). Parcel delivery market: Trend tracking and forecast analysis (2023- 2029) by type, solutions, and region. Stellar Market Research. https://www.stellarmr. com/report/Parcel-Delivery-Market/393.

Rosário, A. T. (2024). A literature review of marketing intelligence and its theoretical implication for leveraging business. *Marketing Innovation Strategies and Consumer Behavior*, 1-30.

Rucha, K. M., & Ogollah, K. (2021). Does regulation moderate operations cost and operational performance relationship amongst third party port-centric logistics firms in Kenya?. *DBA Africa Management Review*, *11*(1), 84-96.

Saeed, M. M., Mohammed, S. S., Kumari, M., & Pandey, G. (2025). The impact of corporate environmental reporting on the financial performance of listed manufacturing firms in Ghana (Csr-24-2036). *Corporate Social Responsibility and Environmental Management*, *32*(1), 1230-1244.

Sahibzada, U. F., & Mumtaz, A. (2023). Knowledge management processes toward organizational performance–a knowledge-based view perspective: an analogy of emerging and developing economies. *Business Process Management Journal*, (ahead-of-print).

Salah, A. H., & Alzghoul, A. (2024). Assessing the moderating role of customer orientation on the impact of business intelligence tools on digital marketing strategy optimization. *International Review of Management and Marketing*, *14*(3), 18-25.

Sassi, D. B., Frini, A., Chaieb, M., & Karaa, W. B. A. (2022). A rough set-based competitive intelligence approach for anticipating competitor's action. *Expert Systems with Applications*, *204*, 117523.

Shittu, K. A., Ishola, S. A., & Bamisaye, S. O. (2025). Marketing intelligence and competitive advantage of small businesses in Lagos State. *British Journal of Interdisciplinary Research*, *2*(3), 42-56.

Tanvir, O., Adeel, R., & Masood, K. (2024). Role of data analytics, business intelligence, and performance management in enhancing strategic marketing decision-making. *Qlantic Journal of Social Sciences*, *5*(4), 445-453.

Tavakoli, M., Faraji, A., Vrolijk, J., Molavi, M., Mol, S. T., & Kismihók, G. (2022). An AI-based open recommender system for personalized labor market driven education. *Advanced Engineering Informatics*, *52*, 101508.

Torsello, D. (2023). Organizational culture and corruption. In *The Cultural Theory of Corruption* (pp. 105-117). Edward Elgar Publishing.

Ulkhaq, M. M. (2024). Logistics performance measurement: A data envelopment analysis using the logistics performance index 2018 data. In *Data-Driven Technologies and Artificial Intelligence in Supply Chain* (pp. 58-76). CRC Press.

Vishnoi, S. K., Bagga, T., & Virmani, N. (2025). The essence of marketing intelligence research highlights from 1962 to 2021. *International Journal of Electronic Marketing and Retailing*, *16*(1), 39-66.

Wu, Q., Yan, D., & Umair, M. (2023). Assessing the role of competitive intelligence and practices of dynamic capabilities in business accommodation of SMEs. *Economic Analysis and Policy*, *77*, 1103-1114.

Yaiprasert, C., & Hidayanto, A. N. (2024). AI-powered ensemble machine learning to optimize cost strategies in logistics business. *International Journal of Information Management Data Insights*, *4*(1), 100209.

Yusuf, B. M., Adamu, A., Barde, B. E., & Abdullahi, H. (2024). Effect of marketing intelligence on the performance of listed consumer goods companies in Nigeria. *FULafia International Journal of Business and Allied Studies*, *2*(2), 236-253.

Zaidan, H. J., Sulaiman, Z., Chin, T. A., Nadia, N., & Hasbullah, M. H. E. G. (2022). Advancing competitive intelligence as a correlation of competitive advantage in Iraqi banking industry. *International Journal of Academic Research in Business and Social Sciences*, *12*(2), 361-375.

Zhang, D., Shen, Z., & Li, Y. (2023). Requirement analysis and service optimization of multiple category fresh products in online retailing using importance-Kano analysis. *Journal of Retailing and Consumer Services*, *72*, 103253.

Zhang, M., Zhou, Y., Li, L., & Gong, B. (2023). Manufacturing firms' e-commerce adoption and performance: evidence from a large survey in Jiaxing, China. *Information Technology and Management*, *24*(4), 313-335.