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COMPETITOR INTELLIGENCE CAPABILITY AND FIRM PERFORMANCE IN LOGISTICS COMPANIES IN KENYA

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ABSTRACT

This research examined the effect of competitor intelligence capability on firm performance with organizational culture as moderator variable in logistics companies in Kenya. Specifically, the research examined the effect of competitor intelligence capability on firm performance in logistics companies in Kenya. Additionally, the research examined the moderating effect of organizational culture on the relationship between competitor intelligence capability and firm performance in logistics companies in Kenya. Drawing on the resource-based theory, dynamic capability theory and knowledge-based view theory, the research utilized a positivist research philosophy and a non-experimental research methodology. The research utilized 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 to the chief executive officers of the logistics companies in Kenya. 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. The descriptive statistics and inferential statistics were used for data analysis. The Pearson's correlation results showed that competitor intelligence capability had a positive and significant relationship with firm performance. The simple linear regression results showed that competitor intelligence capability had a positive and significant effect on firm performance. The hierarchical multiple regression results indicated that organizational culture had significant moderating effect on the relationship between competitor intelligence capability and firm performance in logistics companies in Kenya. Managers and policy makers should to focus on strengthening competitor intelligence capability to foster the performance of logistics companies. Future research could examine effect of competitor intelligence capability on firm performance in other sectors or in other regions.

Key words: *Competitor Intelligence Capability, Firm Performance, Organizational Culture, Kenya*

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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). 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). Enhancing the competitive advantage of the international logistics industry is vital for a country (Chang, Lu, & Lai, 2022). 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 (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). In the logistics industry, identifying a firm's competitive advantage is vital for the sustainable profitability and competitive advantage of logistics service providers (Chang, Lu, & Lai, 2022).

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. 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 (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 (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). With regard to management, competitor intelligence capability helps different teams within a business understand how counterpart teams working for a competitor manage their movements and business decisions (Ouma, 2022). Competitor intelligence is a tool used in strategic management that focuses on understanding the movements and decisions of competitors in the industry (Muzahid & Samputra, 2023). The competitor intelligence is a dimension of competitive intelligence

that focuses on understanding competitors' strengths or weaknesses for market-oriented productive companies (Ragab & Mahmoud, 2023). However, while the concept of competitor intelligence has attracted immense interest from researchers in the field of strategic management, the findings regarding the effect of competitor intelligence on firm performance have been inconsistent (Muzahid & Samputra, 2023).

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). 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. Nevertheless, 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). With regard to management, competitor intelligence is important to the firm's success so that it can remain competitive in the industry and potentially stay ahead of the curve (Rahma & Mekimah, 2023). However, whereas the concept of competitor intelligence has attracted immense interest from researchers in the field of strategic management, the findings regarding the effect of competitor intelligence on firm performance have been inconsistent (Muzahid & Samputra, 2023). The general business problem is that without strategies for developing plans based on competitor 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 competitor intelligence for improving firm performance.

Research Objectives

This quantitative non-experimental correlational study was guided by a general and two specific objectives. The general objective of this study was to examine the effect of competitor intelligence capability on firm performance with organizational culture as a moderator in logistics companies in Kenya. The specific research objectives of the study were:

- To determine the effect of competitor intelligence capability on firm performance in logistics companies in Kenya.
- To establish the moderating effect of organizational culture on the relationship between competitor intelligence capability and firm performance in logistics companies in Kenya.

Research Hypotheses

This study tested the following null hypotheses:

- $H_0$1: Competitor intelligence capability has no significant effect on firm performance in logistics companies in Kenya.
- $H_0$2: Organizational culture has no significant moderating effect on the relationship between

competitor intelligence capability and firm performance in logistics companies in Kenya.

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 anchored on the resource-based view theory, dynamic capabilities theory and dynamic managerial capabilities theory.

Resource-Based View Theory

The resource-based view (RBV) theory (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, Zaidi, Padlee, & Sukri, 2022). The RBV theory provides an explanation as to why some organizations are performing better and how an organization can perform better (Wu, Yan, & Umair, 2023). The RBV theory is the underpinning theory for the study's research model. Drawing insight from the RBV theory (Helfat *et al.*, 2023; ; Isichei *et al.*, 2023) advanced competitor intelligence as a firm intangible resource that can affect export performance, even when channeled through learning orientation. The RBV theory of the firm postulates 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). Despite the broad application of the RBV theory in multiple disciplines, the theory has attracted certain criticisms which led to the evolution of the dynamic capability theory (Teece, 2023).

Dynamic Capability Theory

The dynamic capability theory (DC) theory (Eisenhardt & Martin, 2000; Teece, Pisano, & Shuen, 1997) is an extension of the RBV theory (Chien & Tsai, 2021). The DC theory is considered as an extension for RBV to deal with the changes that occur in the highly turbulent environments due to digital technologies (Chatterjee, Chaudhuri, & Vrontis, 2021; Ortiz, García, Gardó, & Vivas, 2021). The DC theory posits that firms should develop the ability to build, integrate, and reconfigure resources and competencies to achieve competitive advantages (van de Wetering & Besuyen, 2021). The DC theory is a relevant theoretical framework that can be used to explain the effect of competitor intelligence on performance of logistics companies in Kenya. The DC theory is concerned with how firms can sustain and enhance their competitive advantage, notably when facing changing environments (Solem, Fredriksen, & Sørebø, 2023). However, while the DC theory remains very helpful when addressing how to respond to the business changing environment, the theory has attracted certain criticisms (Helfat *et al.*, 2023; Steininger *et al.*, 2022). The major criticisms of the DC theory pertain to the assertions that the DC are difficult to identify and/or operationalize, and measure empirically, and in some cases, the very capabilities can lead to a core capability becoming core rigidity, and that the DC theory is vague and tautological (Collis, Anand, & Field, 2021).

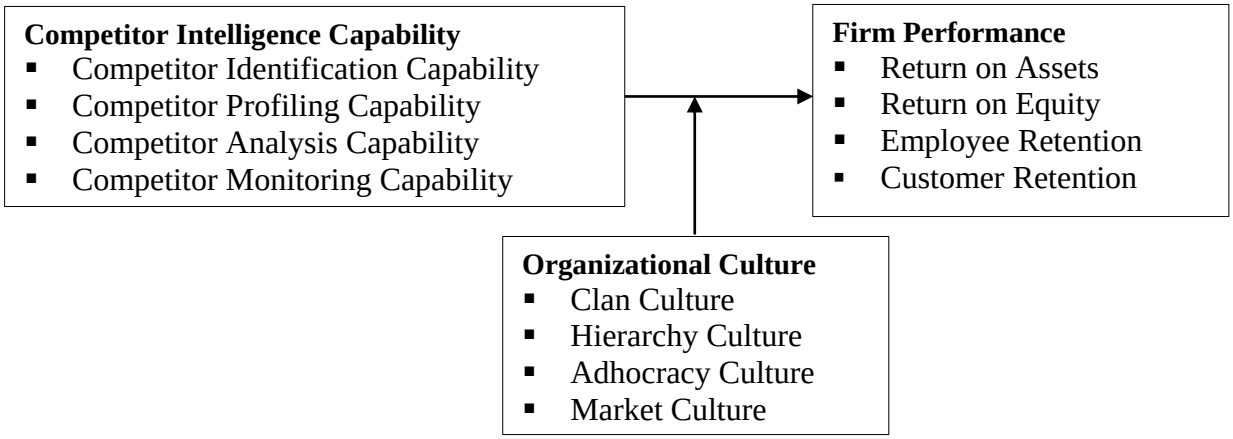
Knowledge-Based View Theory

The Knowledge-based view (KBV) theory of the firm (Garud & Kumaraswamy, 2002; Grant, 2002; Guthrie, 2001; Mathews, 2003) of the firm is a recent extension of the RBV theory of the firm very adequate to the present economic context (Cooper, Pereira, Vrontis, & Liu, 2023). The KBV theory of the firm posits that knowledge is considered to be a very special strategic resource that does not depreciate in the way traditional economic productive factors do, and can generate increasing returns (Sahibzada & Mumtaz, 2023). The KBV theory of the firm is a relevant theoretical framework that helps to explain the effect of competitor on performance of logistics companies in Kenya. Under the umbrella of the KBV theory of the firm (Ariely, 2003; Drucker, 1993; Sirois, 1999; Stewart, 1997), competitive intelligence process is a mechanism to

achieve superior long-term strategic performance leading to sustainable competitive advantage (Hanif *et al*, 2023).

Conceptual Framework

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



Independent Variables **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.

Competitor Intelligence Capability

Competitor intelligence is a tool used in strategic management that focuses on understanding the movements and decisions of competitors in the industry. As an aspect of competitive intelligence, competitor intelligence focusses on competitors, their capabilities, current activities, plans, and intentions (Ouma, 2022). Competitor intelligence is a dimension of competitive intelligence that focuses on understanding competitors' strengths or weaknesses for market-oriented productive companies (Ragab & Mahmoud, 2023).

The competitor intelligence gives the firm a comparison of the firm's products and services versus the competitors' products and services (Muzahid & Samputra, 2023). The competitor intelligence is meant to track how the competitors are developing products, selling services, marketing, winning sales deals, and the overall competitiveness of other businesses within the industry or landscape (Ragab & Mahmoud, 2023). Competitor intelligence helps different teams within a business understand how counterpart teams working for a competitor manage their movements and business decisions (Ouma, 2022). In this concept, competitor intelligence is important to the firm's success so that it can remain competitive in the industry and potentially stay ahead of the curve (Rahma & Mekimah, 2023).

As dimensions of competitive intelligence, competitor identification, competitor profiling, competitor analysis and competitor monitoring are essential tools for staying ahead of the competition (Ranjan & Foropon, 2021). Competitor identification is a key task for managers interested in scanning their competitive terrain, shoring up their defenses against likely (Stadler, Hautz, Matzler, & von den Eichen, 2023). In contrast, competitor profiling is an aspect of competitor intelligence that provides an excellent way to understand the exact market position your competition holds, knowing their dominance and studying their strategies and tactics can help you scale and grow effectively (Hakmaoui, Oubrich, Calof, & El Ghazi, 2022).

However, competitor analysis is an aspect of competitor intelligence that involves gathering and analyzing information about the competitors to gain a deeper understanding of their business operations, products and services, marketing strategies, and strengths and weaknesses (Charmanasa, Georgioua, Mittasb, & Angelisa, 2023). Nevertheless, competitor monitoring is an aspect of competitor intelligence that involves tracking and analyzing the competitors' activities, such as their product launches, marketing campaigns, and pricing strategies (Lievrouw, 2023).

Proper competitor profiling allows the firm to identify specific areas to differentiate the business and gain the right advantage. With the right competitor analysis, the firm can anticipate risks and potential threats before they occur and develop effective strategies to stay ahead (Zhang, Shen, & Li, 2023). Furthermore, providing real-time insights into the competitors' activities, competitor monitoring helps the firm identify emerging threats to the business and anticipate changes in the market. Subsequently, the need for competitor intelligence arises as competition is increasingly getting more difficult.

Firm Performance

Firm performance is a core theme in strategic management research. Scholars opine that firm performance as the firm's ability to increase market share, operate efficiently, and improve services, products, or sales, innovative practices, and overall profit shares (Walter, 2021). Researchers also aver that 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). Extant literature posits that financial performance indicators are expressed in monetary terms, while 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 (Yoo, 2021). Therefore, firm performance as the dependent variable, was measured using financial indicators and non-financial performance indicators.

Organizational Culture

Organizational culture consists of the rules, values, beliefs, and philosophy that dictates team members' behavior in a company (Assoratgoon & Kantabutra, 2023). In the literature, organizational culture is conceptualized 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). Organizational culture comprises of the shared beliefs and values established by leaders and then communicated and reinforced through various methods, ultimately shaping employee perceptions, behaviors and understanding (Bagga, Gera, & Haque, 2023). Existent literature posits that organizational culture has been emphasized as a way to integrate sustainability within an organization in the strategic management literature (Assoratgoon & Kantabutra, 2023). However, there is still no agreement on defining the cultural construct (Arena, Hines, & Golden III, 2023).

The existent 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 (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 (Otike, Barát, & Kiszl, 2022).

In the CVF, the top right quadrant, known as adhocracy culture, emphasizes flexibility, external adaptation,

and entrepreneurship, while the top left quadrant, known as clan culture emphasizes flexibility but is internally focused and concerned with employee involvement and teamwork (Coelho *et al.*, 2022). However, the lower right quadrant, known as hierarchy culture is internally focused, rule-oriented and exudes values of efficiency and control, while the lower left quadrant, known as market culture is externally focused, with core values such as achievement, competitiveness, and consistency (Otike *et al.*, 2022). Adhocracy and clan cultures are both humanistic and organic, exhibiting flexibility, while hierarchy and market cultures are rule-based, with fundamental differences in their response to change (Rahman, Partiwi, & Theopilus, 2021). Nevertheless, the difference is that adhocracy is externally focused and promotes risk-taking, creativity, and entrepreneurship, whilst clan is internally focused, with employee and customer involvement and teamwork as its fundamental values (Assoratgoon & Kantabutra, 2023). Whilst the core values of market culture include goal attainment and market dominance that could lead to a change in rules, hierarchy culture resists change by emphasizing consistency and conformity to existing regulations and norms (Arena *et al.*, 2023).

Organizational culture is considered a powerful means to attaining firm outcomes (Bagga *et al.*, 2023). The extant literature reveals a significant association between organizational culture and firm performance (Osman, Liu, & Wang, 2023). Organizational culture has significant effect on firms' long-term and short-term performance (Chaieb & Karaa, 2022) Like other drivers of firm performance, organizational culture has the potential to be a critical point of differentiation and aid in the establishment of long-term competitive advantage (Osei, Papadopoulos, Acquaye, & Stamati, 2023).

Empirical Review

This section presents an empirical literature review relevant to the study variables.

Competitor Intelligence Capability and Firm Performance

In the Indonesian context, Muzahid and Samputra (2023) examined the effect of competitor intelligence on competitive advantage of logistics firms. The findings indicated that competitor intelligence had a positive and significant effect on competitive advantage. The results showed that competitor intelligence has a significant effect on competitive advantage.

In the context of Iraq, Zaidan *et al.* (2022) examined the effect of competitor intelligence on competitive advantage in the banking industry. The findings showed that competitor intelligence had a positive and significant relationship with competitive advantage in the banking industry. The results showed that competitor intelligence had a positive and significant effect on competitive advantage in the banking industry.

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

In the Kenyan context, Ouma (2022) examined the effect of competitor intelligence strategy on performance of microfinance banks in Nairobi City County. The results showed that competitor intelligence strategy had a positive and significant on performance of microfinance banks. The findings suggested that competitor intelligence strategy has a significant on performance of microfinance banks.

Moderating Effect of Organizational Culture in the Relationship Between Competitor Intelligence Capability and Firm Performance

The role of a moderator variable is to strengthen, diminish, or alter the relationships between the dependent variable and independent variables in the research study. Over the past three decades, the concept of organizational culture and its role in the understanding of how knowledge resources can be perceived and applied by knowledge workers has received much attention (Khaksar *et al.*, 2023). In the South African

context, Asghari, Targholi, Kazemi, Shahriyari, and Rajabion (2020) examined the influence of organizational culture on competitive intelligence. The results indicated that organizational culture had a positive and significant influence on competitive intelligence.

In Kenyan context, Waithaka (2023) examined the moderation effect of organizational culture on the relationship between strategic inputs of competitive intelligence and competitive advantage in commercial banks. The findings indicated that organizational culture had a positive and significant influence on competitive intelligence and competitive advantage. The results suggested that organizational culture moderates the relationship between strategic inputs of competitive intelligence and competitive advantage among commercial banks in Kenya.

In the Jordanian context, Al-Fawaeer and Alkhatib (2020) examined the moderating role of teamwork culture on competitive intelligence and operational performance in public shareholding industrial companies. The results showed that strategic foresight, future vision, and partnership intelligence had positive and significant on operational performance. However, the findings indicated that systemic thinking, motivation intelligence has insignificant effect on operational performance. The results showed that competitor intelligence had a positive and significant on operational performance in public shareholding industrial companies. Moreover, the results that there was a statistically significant effect on the teamwork culture as a moderating variable in the relationship between competitor intelligence and operational performance.

METHODOLOGY

This section presents the research methodology.

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 (Appendix III). 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. Table 1 presents the target population and sample size.

Table 1: Sample Size

	Target Population	Sample Size
Logistics Companies in Kenya	849	272
Total	**849**	**272**

Sampling Techniques

As the target population was homogeneous, 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 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 chief executive officers 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 posits 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 competitor intelligence capability as the predictor variable.

A hierarchical moderated multiple linear analysis was performed to determine whether the relationship

between competitor intelligence capability and firm performance moderated by organizational culture in logistics firms in Kenya. However, prior to the moderation analysis, the independent variable (competitor intelligence capability) was interacted with the moderating variable (organizational culture) to create an interactive variable (competitive intelligence capabilities*organizational culture). The interactive variable (competitive intelligence capabilities*organizational culture) would be introduced to the model as a moderator.

In the first step for the moderation analysis, the competitor intelligence capability (the independent variable) was regressed on firm performance (the dependent variable). In the second step for the moderation analysis, competitor intelligence capability (the independent variable) and organizational culture (the moderating variable) were regressed on firm performance (the dependent variable). In the third step, competitor intelligence capability (the independent variable), organizational culture (the moderating variable) and competitor intelligence capability*organizational culture (the interaction variable) were regressed on firm performance (the dependent variable).

The study set two alternative criteria for determining whether there was a moderating effect of the moderator (organizational culture) on the relationship between the independent variable (competitor intelligence capability) and dependent variable (firm performance). First, if the change in coefficients is significant after introducing the interactive term, then organizational culture is a moderator. Second, if the change in R^2 from model 1 to Model 3 is significant after introducing the interactive term, then organizational culture is a moderator.

Model Specification

The simple linear regressions model was specified as:

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

Where:

Y = Firm Performance

X = Competitor Intelligence Capability

β_0 = Constant Term

β_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 1.

$Y = \beta_0 + \beta_3 X + \beta_4 Z + \varepsilon$ ……...…….……Equation 2.

$Y = \beta_0 + \beta_5 X + \beta_6 Z + \beta_7 X{*}Z + \varepsilon$ ……...……Equation 3.

Where:

Y = Firm Performance (the dependent variable),

X = Competitor 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 = Competitive Intelligence ***** 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 2 presents the response rate results.

Table 2: 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 3 presents the content validity test results.

Table 3: Content Validity Test Results

Constructs	No. of Items	Content Validity Index	Congruency Percentage	Decision
Competitor Intelligence Capability (X)	4	0.933	93.3%	Valid
Organizational Culture (Z)	4	0.946	94.6%	Valid
Firm Performance (Y)	4	0.936	93.6%	Valid
Entire Scale	**12**	**0.938**	**93.8%**	**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 0.812, greater than 0.7, while the Bartlett's Test of Sphericity was significant (Approx. Chi-Square = 577.148; 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 4 presents the results of the Kaiser-Meyer-Olkin (KMO) test of Sampling Adequacy and Bartlett's test of Sphericity.

Table 4: KMO Test of Sampling Adequacy and Bartlett's Test of Sphericity

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.812
Bartlett's Test of Sphericity	Approx. Chi-Square	577.148
	df	6
	Sig.	0.000

Diagnostic Results

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

Normality Test Results

The normality test was performed using the Kolmogorov-Smirnov test and the Shapiro-Wilk test were performed. The Kolmogorov-Smirnov test and the Shapiro-Wilk test are most widely used methods to test the normality of the data (Bell *et al.*, 2022). From the normality test results, 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. Generally, 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

	Kolmogorov-Smirnov[a]			**Shapiro-Wilk**			
Variable	**Statistic**	**df**	**Sig.**	**Statistic**	**df**	**Sig.**	**Decision**
Competitor Intelligence Capability (X_3)	.128	215	.096	.969	215	.341	Normal Distribution
Organizational Culture (Z)	.093	215	.200*	.973	215	.493	Normal Distribution
Firm Performance (Y)	.051	215	.090	.993	215	.207	Normal Distribution

Linearity Test Results

The linearity test was performed utilizing the Pearson's product moment correlation analysis. The linearity test results showed that competitor intelligence capability had a positive significant linear relationship with organizational culture ($r = 0.496$, $p \leq 0.05$) and firm performance ($r = 0.707$, $p \leq 0.05$). Additionally, the linearity test results indicated that competitor intelligence capability had a positive significant linear relationship with firm performance ($r = 0.849$, $p \leq 0.05$). The linearity test results suggested that the assumption of linearity was not violated (Hair *et al.*, 2021). Table 6 presents the linearity test results.

Table 6: Linearity Test Results

Variable		**X_3**	**Z**	**Y**
Competitor Intelligence Capability (X_3)	Pearson Correlation	1		
	Sig. (2-tailed)			
	n	215		
Organizational Culture (Z)	Pearson Correlation	.496**	1	
	Sig. (2-tailed)	.000		
	n	215	215	
Firm Performance (Y)	Pearson Correlation	.707**	.849**	1
	Sig. (2-tailed)	.000	.000	
	n	215	215	215

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

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 7 presents the homoscedasticity test results of the study variables.

Table 7: Homoscedasticity Test Results

Variable	Levene Statistic	df1	df2	sig	Remarks
Competitor Intelligence Capability (X_3)	4.64	1	215	.244	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 1.947, 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 8 presents the model summary results.

Table 8: Autocorrelation Test Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.707[a]	.499	.497	.248	
2	.910[b]	.829	.827	.145	
3	.927[c]	.859	.857	.132	1.947

a. Predictors: (Constant), Competitor Intelligence Capability (X_3)
b. Predictors: (Constant), Competitor Intelligence Capability (X_3), Organizational Culture (Z)
c. Predictors: (Constant), Competitor Intelligence Capability (X_3), Organizational Culture (Z), Competitor Intelligence Capability* Organizational Culture (X_3*Z)
d. Dependent Variable: Firm Performance (Y)

Multicollinearity Test Results

The variance inflation factor (VIF) values and tolerance values for each of the independent variables were used for the multicollinearity test. 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. Generally, 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 9 presents the multicollinearity test results.

Table 9: Multicollinearity Test Results

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	2.427	.101		24.051	.000		
	Competitor Intelligence Capability (X_3)	.381	.026	.707	14.578	.000	1.000	1.000
2	(Constant)	.559	.110		5.090	.000		
	Competitor Intelligence Capability (X_3)	.204	.018	.379	11.564	.000	.754	1.327
	Organizational Culture (Z)	.649	.032	.661	20.174	.000	.754	1.327
3	(Constant)	.498	.100		4.964	.000		
	Competitor Intelligence Capability (X_3)	.186	.016	.346	11.460	.000	.734	1.363
	Organizational Culture (Z)	.560	.032	.571	17.497	.000	.628	1.593
	Competitor Intelligence Capability*Organizational Culture (X_3*Z)	.122	.018	.207	6.770	.000	.715	1.399

a. Dependent Variable: Firm Performance (Y)

Results of Correlation Analysis

The Pearson's product moment correlation analysis was performed to confirm or deny the relationships between the study variables. The correlation results showed that competitor intelligence capability had a positive significant linear relationship with organizational culture ($r = 0.496$, $p \leq 0.05$) and firm performance ($r = 0.707$, $p \leq 0.05$). Additionally, the correlation results indicated that competitor intelligence capability had a positive significant linear relationship with firm performance ($r = 0.849$, $p \leq 0.05$). Table 10 presents the Pearson's product moment correlation results.

Table 10: The Pearson's Product Moment Correlation Results

Variable		X_3	Z	Y
Competitor Intelligence Capability (X)	Pearson Correlation	1		
	Sig. (2-tailed)			
	n	215		
Organizational Culture (Z)	Pearson Correlation	.496**	1	
	Sig. (2-tailed)	.000		
	n	215	215	
Firm Performance (Y)	Pearson Correlation	.707**	.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 competitor intelligence capability as the predictor variable.

Model Summary

From the model summary in table, the value of coefficient of correlation (R) was 0.707, while the value of coefficient of determination (R^2) was 0.499, and the value of the adjusted R^2 was 0.497. The R value of 0.707 suggested that there was a strong positive correlation between the competitor intelligence capability

and firm performance in logistics companies in Kenya. The R^2 value of 0.499 suggested that the overall model as a whole (the model involving constant, competitor intelligence capability) was able to significantly predict and explain approximately 49.9% of the variance in the performance of logistics companies in Kenya. The Adjusted R Square value of 0.497 suggested that the overall model as a whole (the model involving constant, competitor intelligence capability) significantly predicted and explained 49.7% of the variance in the performance of logistics companies in Kenya. The Std. Error of the Estimate value of 0.248 suggested that other factors not included in the model in the current study that could also predict and explain the remaining 50.3% 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 11 presents the model summary results.

Table 11: Model Summary[b] Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.707[a]	.499	.497	.248

a. Predictors: (Constant), Competitor 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, competitor intelligence capability), achieved a high degree of fit, as reflected by $R^2 = 0.499$, adj. $R^2 = 0.497$, $F(1, 213) = 212.528$, $p < 0.05$. The null hypothesis was that the overall model as a whole (the model involving constant, competitor 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, competitor 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, competitor intelligence capability) was able to significantly predict the performance of logistics companies in Kenya. Table 12 presents the ANOVA results.

Table 12: ANOVA[a] Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.053	1	13.053	212.528	.000[b]
	Residual	13.082	213	.061		
	Total	26.135	214			

a. Dependent Variable: Firm Performance (Y)

b. Predictors: (Constant), Competitor 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:

$Y = 2.427 + 0.381X$

The final predictive equation suggested that holding all factors in to account constant (competitor intelligence capability), constant at zero, the performance of logistics companies in Kenya would be 2.427. The final predictive equation suggested that with all other factors held constant, a unit increase in competitor intelligence capability would lead to 0.381 unit increase in the performance of logistics companies in Kenya. The regression results indicated that competitor intelligence capability had a positive and significant effect on

the performance (β_1 = 0.707; t = 14.578; $p \leq 0.05$) of logistics companies in Kenya. Table 13 presents the multiple regressions coefficients results.

Table 13: Simple Linear Regression Coefficients[a] Results

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.427	.101		24.051	.000
	Competitor Intelligence Capability (X)	.381	.026	.707	14.578	.000

a. Dependent Variable: Firm Performance (Y)

Moderated Multiple Regression Results

4.10 Hierarchical Moderated Multiple Linear Regressions Analysis Results

This section provides the results for the moderating effect of organizational culture on the relationship between competitive intelligence capability and firm performance of logistics companies in Kenya. A moderated multiple linear regression analysis was performed to test the moderating effect of organizational culture in the relationship between competitive intelligence capabilities and performance of logistics companies in Kenya.

Moderated Multiple Regression Model Summary Results

From the model summary table, it is clear that the value of the coefficient of correlation (R) was 0.707 for model 1, suggesting a strong positive correlation between the predictor variable (competitor intelligence capability) and performance of logistics companies in Kenya. Additionally, the value of the coefficient of determination (R^2) was 0.499 for model 1, suggesting that the overall model (the model involving constant and competitor intelligence capability) could significantly predict and explain approximately 49.9% of the variance in the performance of logistics companies in Kenya. Moreover, the value of the adjusted R^2 was 0.497 for model 1, suggesting that the overall model (the model involving constant and competitor intelligence capability) significantly predicted approximately 49.7% of the variance in the performance of logistics companies in Kenya. Furthermore, the value of the Std. Error of the Estimate was 0.248 for model 1, suggesting that there are other factors not included in the model that could predict the remaining 50.3% of the variance in the performance of logistics companies in Kenya.

From the model summary table, it is clear that the value of the coefficient of correlation (R) was 0.910 for model 2, suggesting a strong positive correlation between the predictor variables (competitor intelligence capability and organizational culture) and performance of logistics companies in Kenya. Additionally, the value of the coefficient of determination (R^2) was 0.829 for model 2, suggesting that the overall model (the model involving constant, competitor intelligence capability and organizational culture) could significantly predict and explain approximately 82.9% of the variance in the performance of logistics companies in Kenya. Moreover, the value of the adjusted R^2 was 0.827 for model 2, suggested that the overall model (the model involving constant, competitor intelligence capability and organizational culture) significantly predicted approximately 82.7% of the variance in the performance of logistics companies in Kenya. Furthermore, the value of the Std. Error of the Estimate was 0.145 for model 2, suggesting that there are other factors not included in the model that could predict the remaining 17.3% of the variance in the performance of logistics companies in Kenya.

From the model summary table, it is clear that the value of the coefficient of correlation (R) was 0.927 for model 3, suggesting a strong positive correlation between the predictor variables (competitor intelligence capability, organizational culture and competitor intelligence capability *organizational culture) and performance of logistics companies in Kenya. Additionally, the value of the coefficient of determination (R^2) was 0.859 for model 3, suggesting that the overall model (the model involving constant, competitor

intelligence capability, organizational culture and competitor intelligence capability * organizational culture) as a whole could significantly predict and explain approximately 85.9% of the variance in the performance of logistics companies in Kenya. Moreover, the value of the adjusted R^2 was 0.857 for model 3, suggesting that the overall model (the model involving constant, competitor intelligence capability, organizational culture and competitor intelligence capability * organizational culture) significantly predicted approximately 85.7% of the variance in the performance of logistics companies in Kenya. Furthermore, the value of the Std. Error of the Estimate was 0.132 for model 3, suggesting that there are other factors not included in the model that could predict the remaining 14.3% 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 1.947, 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 14 presents the moderated multiple linear regression's model summary results.

Table 14: Moderated Multiple Regression's Model Summary[d] Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.707[a]	.499	.497	.248	
2	.910[b]	.829	.827	.145	
3	.927[c]	.859	.857	.132	1.947

a. Predictors: (Constant), Competitor Intelligence Capability (X)
b. Predictors: (Constant), Competitor Intelligence Capability (X), Organizational Culture (Z)
c. Predictors: (Constant), Competitor Intelligence Capability (X), Organizational Culture (Z), Competitor 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, competitor intelligence capability), as a whole achieved a high degree of fit, as reflected by $R^2 = 0.499$, adj. $R^2 = 0.829$, $F(1, 213) = 212.528$, $p < 0.001$. 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 (competitor 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 competitor intelligence capability significantly predict the performance of logistics companies in Kenya.

From the ANOVA table results, the overall model 2 (the model involving constant, competitor intelligence capability and organizational culture), as a whole achieved a high degree of fit, as reflected by $R^2 = 0.866$, adj. $R^2 = 0.865$, $F(2, 213) = 512.293$, $p < 0.001$. The null hypothesis was that the linear combination of predictor variables (competitor 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 (competitor 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 (competitor 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 (competitor 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, competitor intelligence capability, organizational culture and competitor intelligence capability*organizational culture), as a whole achieved a high degree of fit, as reflected by $R^2 = 0.859$, adj. $R^2 = 0.857$, $F(3, 211) = 429.028$, $p < 0.001$. The null hypothesis was that the linear combination of predictor variables (competitor intelligence capability, organizational culture and competitor 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 (competitor intelligence capability, organizational culture and competitor intelligence capability*organizational culture) was able to significantly predict the performance of logistics companies in Kenya. Table 15 presents the standard multiple linear regression's ANOVA results.

Table 15: Moderated Multiple Regression's ANOVA[a] Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.053	1	13.053	212.528	.000[b]
	Residual	13.082	213	.061		
	Total	26.135	214			
2	Regression	21.655	2	10.827	512.293	.000[c]
	Residual	4.481	212	.021		
	Total	26.135	214			
3	Regression	22.454	3	7.485	429.028	.000[d]
	Residual	3.681	211	.017		
	Total	26.135	214			

a. Dependent Variable: Firm Performance (Y)
b. Predictors: (Constant), Competitor Intelligence Capability (X)
c. Predictors: (Constant), Competitor Intelligence Capability (X), Organizational Culture (Z)
d. Predictors: (Constant), Competitor Intelligence Capability (X), Organizational Culture (Z), Competitor 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:

$Y = 2.427 + 0.381X$ ..... Equation 4
$Y = 0.559 + 0.204X + 0.649Z$ ..... Equation 5
$Y = 0.498 + 0.186X + 0.560Z + 0.122X*Z$ ..... Equation 6

The first final predictive equation suggested that holding all factors in to account constant (competitor intelligence capability), constant at zero, the performance of logistics companies in Kenya would be 2.427.

Additionally, the first final predictive equation suggested that with all other factors held constant, a unit increase in competitor intelligence capability would lead to 0.381 unit increase in the performance of logistics companies in Kenya.

The second final predictive equation suggested that holding all factors in to account constant (competitor intelligence capability and organizational culture), constant at zero, the performance of logistics companies in Kenya would be 0.559. Additionally, the second final predictive equation suggested that with all other factors held constant, a unit increase in competitor intelligence capability would lead to 0.204 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 0.649 unit increase in the performance of logistics companies in Kenya.

The third final predictive equation suggested that holding all factors in to account constant (competitor intelligence capability, organizational culture and competitor intelligence capability*organizational culture), constant at zero, the performance of logistics companies in Kenya would be 0.498. Additionally, the third final predictive equation suggested that with all other factors held constant, a unit increase in competitor intelligence capability would lead to 0.186 unit increase in the performance of logistics companies in Kenya. Moreover, the third final predictive equation suggested that with all other factors held constant, a unit increase in organizational culture would lead to 0.560 unit increase in the performance of logistics companies in Kenya. Furthermore, the third final predictive equation suggested that with all other factors held constant, a unit increase in competitor intelligence capability*organizational culture would lead to 0.122 unit increase in the performance of logistics companies in Kenya.

In the first step for the moderation testing, the independent variable (competitor intelligence capability) was regressed on the dependent variable (performance) of logistics companies in Kenya. Therefore, model 1 was fitted with competitor intelligence capability predicting performance of logistics companies in Kenya. From the regression coefficients table in model 1, the regression results indicated that competitor intelligence capability had positive and significant effect on the performance ($\beta_2 = 0.707$; $t = 14.578$; $p \leq 0.05$) of logistics companies in Kenya.

In the second step for the moderation testing, the independent variable (competitor intelligence capability) and the moderating variable (organizational culture) were regressed on the dependent variable (performance) of logistics companies in Kenya. From the regression coefficients table in model 2, the regression results indicated that competitor intelligence capability had positive and significant effect on the performance ($\beta_3 = 0.379$; $t = 11.564$; $p \leq 0.05$) of logistics companies in Kenya. Additionally, for model 2, the regression results indicated that organizational culture had a positive and significant effect on the performance ($\beta_4 = 0.661$; $t = 20.174$; $p \leq 0.05$) of logistics companies in Kenya.

In the third step for the moderation testing, the independent variable (competitor intelligence capability) and the moderating variable (organizational culture) and the interaction term (competitor intelligence capability* organizational culture) were regressed on firm performance. From the regression coefficients table in model 3, the regression results indicated that competitor intelligence capability had a positive and significant effect on the performance ($\beta_5 = 0.346$; $t = 11.460$; $p \leq 0.05$) of logistics companies in Kenya. In addition, for model 3, the regression results indicated that organizational culture had a positive and significant effect on the performance ($\beta_6 = 0.571$; $t = 17.497$; $p \leq 0.05$) of logistics companies in Kenya. Besides, for model 3, the regression results indicated that competitor intelligence capability*organizational culture (the interactive term) had a positive and significant effect on the performance ($\beta_7 = 0.207$; $t = 6.770$; $p \leq 0.05$) of logistics companies in Kenya. Table 16 presents the moderated multiple linear regression coefficients results.

Table 16: Moderated Multiple Regression Coefficients[a] Results

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	2.427	.101		24.051	.000		
	Competitor Intelligence Capability (X)	.381	.026	.707	14.578	.000	1.000	1.000
2	(Constant)	.559	.110		5.090	.000		
	Competitor Intelligence Capability (X)	.204	.018	.379	11.564	.000	.754	1.327
	Organizational Culture (Z)	.649	.032	.661	20.174	.000	.754	1.327
3	(Constant)	.498	.100		4.964	.000		
	Competitor Intelligence Capability (X)	.186	.016	.346	11.460	.000	.734	1.363
	Organizational Culture (Z)	.560	.032	.571	17.497	.000	.628	1.593
	Competitor Intelligence Capability*Organizational Culture (X*Z)	.122	.018	.207	6.770	.000	.715	1.399

a. Dependent Variable: Firm Performance (Y)

Hypotheses Test Results

In this research, 2 null hypotheses were tested. The 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_0i if the $P \leq 0.05$, and otherwise fail to reject the null hypothesis H_0i if the $P > 0.05$.

Hypothesis One Test Results

The first null hypothesis (H_01) predicted that competitor intelligence capability has no significant effect on firm performance in Kenya. The decision rule was to reject the null hypothesis H_01 if the $\beta_1 \neq 0$, $t \geq 1.960$, $P \leq 0.05$, and otherwise fail to reject the null hypothesis H_01 if the $\beta_1 = 0$, $t < 1.960$, $P > 0.05$. The simple linear regression results indicated that competitor intelligence capability had a positive and significant effect on firm performance ($\beta_1 = 0.707$; $t = 14.578$; $p \leq 0.05$) in logistics companies in Kenya. Therefore, the H_01 was rejected, in the favor of the H_A1. Subsequently, competitor intelligence capability has a significant effect on firm performance in logistics companies in Kenya.

Hypothesis Two Test Results

The second null hypothesis (H_02) predicted that organizational culture has no significant moderating effect on the relationship between competitor intelligence capability and firm performance in Kenya. The decision rule was to reject the null hypothesis H_01 if the $\beta_1 \neq 0$, $t \geq 1.960$, $P \leq 0.05$, and otherwise fail to reject the null hypothesis H_01 if the $\beta_1 = 0$, $t < 1.960$, $P > 0.05$. The moderated hierarchical multiple regression results showed that organizational culture significant moderating effect on the relationship between competitor and firm performance in Kenya. In model 1, the regression results indicated that competitor intelligence capability had positive and significant effect on the performance ($\beta_2 = 0.707$; $t = 14.578$; $p \leq 0.05$) of logistics companies in Kenya. In model 2, the regression results indicated that competitor intelligence capability had positive and significant effect on the performance ($\beta_3 = 0.379$; $t = 11.564$; $p \leq 0.05$) of logistics companies in Kenya. Additionally, for model 2, the regression results indicated that organizational culture had a positive and significant effect on the performance ($\beta_4 = 0.661$; $t = 20.174$; $p \leq 0.05$) of logistics companies in Kenya. In model 3, the regression results indicated that organizational culture had a positive and significant effect on the performance ($\beta_6 = 0.571$; $t = 17.497$; $p \leq 0.05$) of logistics companies in Kenya. Besides, for model 3, the

regression results indicated that competitor intelligence capability*organizational culture (the interactive term) had a positive and significant effect on the performance ($\beta_7 = 0.207$; $t = 6.770$; $p \leq 0.05$) of logistics companies in Kenya. Therefore, the $H_0 2$ was rejected, in the favor of the $H_A 2$. Therefore, organizational culture significant moderating effect on the relationship between competitor and firm performance in Kenya. Table 17 presents the hypotheses test results.

Table 17: Hypotheses Test Results

Hypothesis			β	t	Sig.	Decision
$H_0 1$: Competitive intelligence capability has no significant effect on firm performance in Kenya.			.707	14.578	.000	Reject the $H_0 1$
$H_0 2$: Organizational culture has no significant moderating effect on the relationship between competitor and firm performance in Kenya.						Reject the $H_0 2$
Competitive intelligence capability	→	Firm Performance	.346	11.460	.000	
Organizational culture	→	Firm Performance	.571	17.497	.000	
Competitive intelligence capability*Organizational culture	→	Firm Performance	.207	6.770	.000	

Discussions

The purpose of this quantitative correlational study was to investigate the effect of competitor intelligence capability on firm performance and the moderating effect of organizational culture on the relationship between competitor and firm performance in Kenya. Specifically, the research sought to examine the effect of competitor intelligence capabilities on firm performance in logistics companies in Kenya. The correlation results indicated that competitor intelligence capability had a positive and significant relationship with firm performance in logistics companies in Kenya. The regression results showed that competitor intelligence capability on firm performance in logistics companies in Kenya. The findings are consistent with the results of prior studies (Ouma, 2022; Tahmasebifard, 2018; Rahma & Mekimah, 2023). The research examined the moderating effect of organizational culture on the relationship between competitor and firm performance in Kenya. The regression results indicated that organizational culture had significant moderating effect on the relationship between competitor and firm performance in Kenya. The findings are consistent with the results of previous studies (Al-Fawaeer & Alkhatib, 2020; Waithaka, 2023).

SUMMARY

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

CONCLUSIONS

The purpose of this quantitative correlational study was to investigate the effect of competitor intelligence

capability on firm performance and the moderating effect of organizational culture on the relationship between competitor and firm performance in Kenya. Specifically, the research sought to establish the effect of competitor intelligence capability on firm performance in logistics companies in Kenya. The research found that competitor intelligence capability had a positive and significant effect on firm performance in logistics companies in Kenya. The first conclusion was that has a positive and significant effect on firm performance. The research examined the moderating effect of organizational culture on the relationship between competitor and firm performance in logistics companies in Kenya. The research found that organizational culture had significant moderating effect on the relationship between competitor and firm performance in logistics companies in Kenya. The second conclusion was that organizational culture has significant moderating effect on the relationship between competitor and firm performance.

RECOMMENDATIONS

From the findings of this research, the research recommends that managers to foster the performance of logistics companies. The research also recommended that policy makers within the travel and tourism sector should to revise polices so that are more appropriate for the development of competitor intelligence capability for logistics companies to foster firm performance in the logistics sector.

Limitations and Future Research

This research paper generates novel insights into how competitor intelligence capability s 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. Subsequently, caution should be taken when attempting to generalize the results beyond the logistics sector or in other regions. Future research could examine into how competitor intelligence capability predict firm performance in other sectors or in other regions. Second, the research was contextually limited to only four competitor intelligence capability, namely competitor identification capability, competitor profiling capability, competitor analysis capability and competitor monitoring capability. Future research could investigate other important competitor intelligence capability and their effect on firm performance. Third, as the research relied on a cross-sectional survey design, no inferences about the causality of relationships can be made. Future researchers should consider conducting a longitudinal study on competitor intelligence capability and firm performance.

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