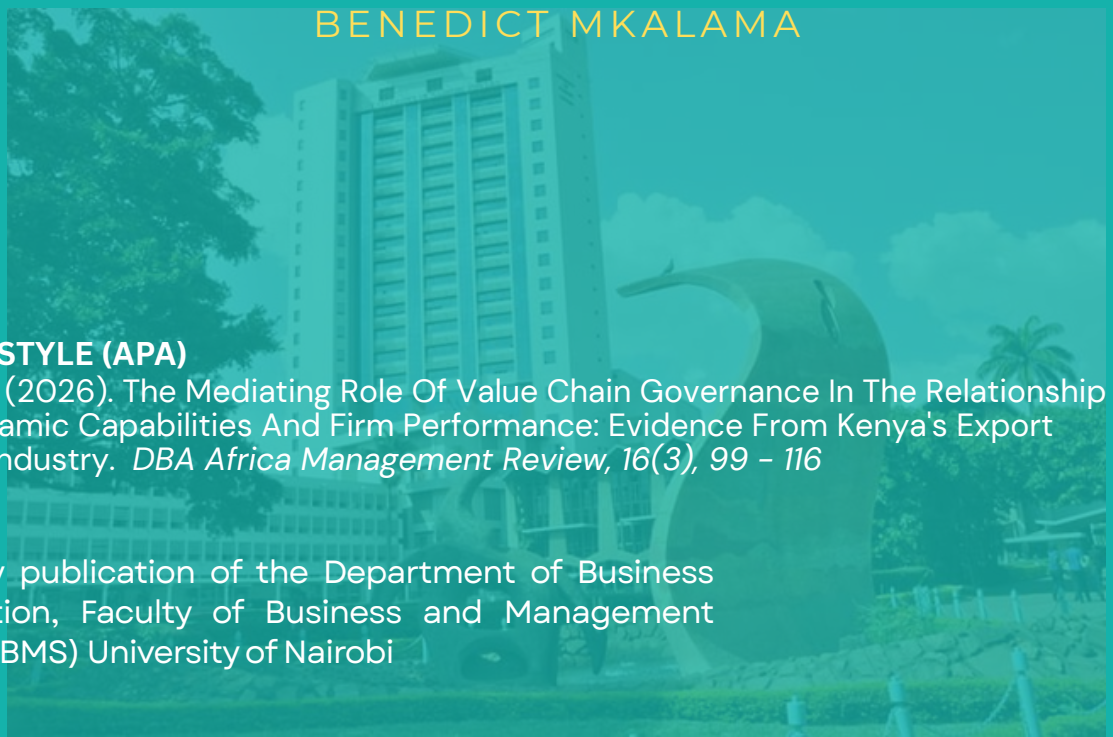
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THE MEDIATING ROLE OF VALUE CHAIN GOVERNANCE IN THE RELATIONSHIP BETWEEN DYNAMIC CAPABILITIES AND FIRM PERFORMANCE: EVIDENCE FROM KENYA'S EXPORT HORTICULTURE INDUSTRY

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Abstract

Dynamic capabilities generate performance potential by enabling firms to sense environmental changes, seize opportunities, and reconfigure resources. However, their impact on performance depends on the translation of adaptive responses into coordinated organizational practices. This study investigated the mediating role of value chain governance in the relationship between dynamic capabilities and firm performance among Kenyan export horticulture enterprises. The research is primarily grounded in Dynamic Capabilities Theory, with additional insights from Transaction Cost Economics and the Relational View. Employing a positivist, cross-sectional explanatory design, data from 182 export horticulture enterprises were analyzed using Partial Least Squares Structural Equation Modelling (PLS-SEM) in SmartPLS 4. The findings demonstrate that dynamic capabilities are positively associated with both value chain governance and firm performance, and that value chain governance is positively associated with firm performance. Furthermore, the results reveal an indirect-only mediation pattern, indicating that value chain governance serves as the principal pathway through which dynamic capabilities influence firm performance. This study advances Dynamic Capabilities Theory by identifying value chain governance as a firm-level governance architecture that institutionalizes dynamic capabilities in contractual, certification and standards, environmental, social and governance (ESG), buyer-relationship, and regulatory-compliance practices. The findings highlight the strategic importance of integrating value chain governance with dynamic capabilities in highly regulated African export markets.

Keywords: Dynamic Capabilities; Value Chain Governance; Firm Performance; Export Horticulture; PLS-SEM

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Introduction

Dynamic capabilities facilitate the process by which organizations modify their resource base in response to changes in institutional requirements, technology, and markets. Nevertheless, adaptive capacity is an analytically distinct concept from accomplished performance (Dayangan and Aykol, 2026). Despite the fact that sensing may identify an opportunity or peril, seizing may organize resources for a reaction, and reconfiguration may modify routines and assets, none of these processes guarantees that the response will be coordinated, credible, or accepted by external partners. Consequently, contemporary research increasingly recognizes the dynamic capabilities-performance link as a process with identifiable transmission mechanisms, rather than an automatic, direct impact (Scheuer and Thaler, 2023). The fundamental conceptual issue is how adaptive potential translates into performance (Teece, 2007).

By translating strategic responses into coordinated arrangements for managing transactions, allocating responsibilities, ensuring compliance, and sustaining inter-organizational relationships, value chain governance provides a theoretically plausible mechanism through which dynamic capabilities may be associated with firm performance (Chae et al., 2024). Formal mechanisms, including contracts, standards, audits, and regulatory controls, facilitate information sharing, cooperative issue resolution, and adaptation across organizational boundaries, while relational mechanisms reduce ambiguity and exchange risk (Cislaghi et al., 2023; Um, 2024). This research defines value chain governance as an integrated firm-level architecture encompassing regulatory compliance, buyer relationships, environmental, social, and governance practices, and contracts, standards, and certifications. In accordance with the Balanced Scorecard's multidimensional logic, it is subsequently evaluated for performance relevance across financial, customer, internal process, and learning and growth outcomes (Kumar et al., 2024).

The export horticulture industry in Kenya provides an intriguing context for examining this process. The market access of flower, fruit, and vegetable exporters is influenced by a variety of factors, including product perishability, phytosanitary regulations, traceability, private certification, logistical reliability, and sustainability standards, all of which are driven by buyer networks. A polycentric governance system is the outcome of the combination of public regulation, lead-firm requirements, and numerous market channels, rather than a single chain of authority (Alford et al., 2024). The possibilities and dependencies of enterprises are influenced by their network locations and multichain strategies, while certification affects their participation in production and exports (Githiga et al., 2024). Additionally, Kenya's development trajectory is highlighted in national trade and economic evaluations, which underscore the importance of agriculture and export competitiveness (Kenya National Bureau of Statistics [KNBS], 2025; World Bank, 2024).

This study identifies four pertinent deficiencies, despite its practical value. The conceptual development of dynamic capabilities research is more concerned with explaining adaptation than

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with discovering the governance structures that enable adaptive choices to become externally credible market activity (Hermano et al., 2022). Value chain governance has not been tested as an intervening construct, despite recent empirical studies that have established mediation effects through project and portfolio performance, organizational agility, open innovation, and entrepreneurial orientation (Hernández-Linares et al., 2024; Pundziene et al., 2022). Existing studies on Kenyan horticulture have examined issues such as certification, network embeddedness, power relations, and multichain upgrading, while research on dynamic capabilities has examined their relationship with firm performance through various intermediate mechanisms (Pasquali et al., 2021; Krishnan, 2023; Alford et al., 2024; Li et al., 2022). However, these strands of research have not adequately integrated dynamic capabilities, value chain governance, and multidimensional firm performance within a single empirical model. The study therefore employs a methodological approach that assesses the quality of the latent constructs while evaluating the model's direct and indirect relationships, explanatory power, and predictive relevance. This integrated approach enables the study to examine whether the relationship between dynamic capabilities and firm performance is mediated by value chain governance, and whether a residual direct relationship remains after incorporating the mediator. Accordingly, this study had a single explicit objective: to examine the mediating role of value chain governance in the relationship between dynamic capabilities and firm performance among Kenyan export horticulture enterprises. The study contributes to the strategic management and global value chain literature by linking firm-level adaptive capabilities to the governance arrangements that translate those capabilities into coordinated organizational practices. It further conceptualizes value chain governance as an integrated implementation architecture encompassing formal, relational, certification, ESG, and regulatory mechanisms. In practice, the study highlights the importance of aligning dynamic capabilities with the continual renewal of contracts, standards, traceability systems, buyer and supplier relationships, and compliance practices, so that investments in sensing, seizing, and reconfiguration can translate into performance-relevant organizational outcomes.

Research Objective

To examine the mediating role of value chain governance in the relationship between dynamic capabilities and firm performance among Kenyan export horticulture enterprises.

Review of the Literature

Theoretical Foundation

Dynamic Capabilities Theory serves as the primary explanatory framework employed in this investigation. The capacity to "integrate, build, and reconfigure internal and external competencies to address rapidly changing environments" was defined by Teece et al. (1997). Teece (2007) subsequently organized their microfoundations around the following principles: identifying opportunities and threats, capitalizing on specific opportunities, and adjusting or reconfiguring the resource base. The concept distinguishes between conventional capabilities that maintain ongoing activities and

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higher-order renewal processes. The latter is pertinent to the current model as it elucidates how exporters adapt to changes in buyer needs, certification regimes, technology, logistics, and legislation, allocate resources to appropriate responses, and restructure routines and relationships. Its limitation is that it fails to establish the governance framework by which such solutions gain market legitimacy and deliver performance value. Mediation may be feasible under this constraint.

Transaction Cost Economics contributes to this theory by emphasizing exchange governance under uncertainty, asset specificity, knowledge asymmetry, and the potential of opportunism (Williamson, 1985). Perishable goods, buyer-specific requirements, scattered suppliers, and investments valued for timely delivery and certification are all aspects of export horticulture. Contracts, monitoring, auditing, traceability, and quality controls may all contribute to reducing coordination uncertainty and protecting exchange-specific investments. According to a recent multi-tier supply chain analysis, governance should consider indirect transactions and linkages that extend beyond the primary contractual partners of a focal firm (Chae et al., 2024). Transaction Cost Economics demonstrates the potential benefits of formal governance arrangements in enhancing exchange reliability, while Dynamic Capabilities Theory elucidates how businesses determine when to renew such agreements in response to changing circumstances.

The Relational View introduces a collaborative element to governance. Inter-organizational interactions, according to Dyer and Singh (1998), may generate relational rents through effective governance, knowledge-sharing protocols, relationship-specific investments, and complementary resources. Formal and informal governance in food and other supply chains may complement each other rather than compete, and their integration can enhance the value of relationships (Cislaghi et al., 2023). In the same vein, research on collaborative supplier configurations indicates that the way organizations pool resources and share information is influenced by connection patterns (Patrucco et al., 2022). This perspective is especially important for exporters, who are responsible for coordinating producers, laboratories, certifying authorities, logistics providers, regulators, and international purchasers.

Collectively, the three concepts provide a comprehensive explanation of the proposed procedure. Strategic adaptability is elucidated by Dynamic Capabilities Theory, governance's control and coordinating responsibilities are elucidated by Transaction Cost Economics, and collaborative value creation across organizational borders is described by the Relational View. Value chain governance is situated at the intersection of these two concepts, as it institutionalizes adaptive decisions through formal controls and relational processes that may affect the performance of multidimensional corporations.

Dynamic Capabilities, Value Chain Governance and Firm Performance

Dynamic capabilities enable firms to sense, seize, and reconfigure in response to changing conditions. Sensing refers to the systematic

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identification of changes in markets, regulations, technology, and customer requirements and the interpretation of their implications. Seizing involves making strategic commitments and mobilizing resources in response to identified opportunities or risks. Reconfiguration refers to modifying organizational structures, processes, assets, and external relationships to accommodate changing circumstances (Teece et al., 1997; Teece, 2007). Accordingly, dynamic capabilities concern the firm's adaptive capacity rather than performance outcomes themselves.

Value chain governance refers to the mechanisms through which an organization manages interdependent activities and relationships across the export value chain. Contracts establish obligations and remedies; standards and certification codify product and process expectations; environmental, social, and governance (ESG) practices connect sustainability commitments with operational controls; buyer relationships facilitate information exchange and adjustment; and regulatory compliance ensures that operations conform to applicable public regulations (Gereffi et al., 2005; Dallas et al., 2019; Ponte, 2023). These dimensions integrate formal authority with relational coordination (Cislaghi et al., 2023; Um, 2024). Such integration is important because buyer relationships with ambiguous responsibilities, certifications that are not supported by integrated processes, or contracts without reliable monitoring may result in symbolic compliance rather than consistent organizational performance.

Firm performance is conceptualized as a multidimensional construct. Financial outcomes encompass revenue, profitability, and growth; customer outcomes include satisfaction, retention, and market confidence; internal-process outcomes encompass operational consistency, quality, timeliness, and traceability; and learning-and-growth outcomes include organizational development and capability enhancement. This specification recognizes that governance may have implications for multiple dimensions of performance, including organizational and process outcomes that may precede or accompany the realization of short-term financial returns (Kaplan & Norton, 1996; Kumar et al., 2024).

The mediation logic is predicated on the distinction between organizational outcomes, implementation architecture, and adaptive ability. A company may identify a revised residue limit or buyer sustainability requirement and allocate resources to address it. However, the performance impact is contingent upon whether the response is translated into supplier instructions, testing protocols, documentary controls, contract amendments, corrective-action routines, and buyer assurance. Therefore, value chain governance should be improved by dynamic capabilities, and adaptive responses that safeguard market access and performance should be strengthened by improved governance.

Research Gaps and Empirical Evidence

Empirical research indicates that the relationship between dynamic capabilities and firm performance is not necessarily direct, with several studies identifying intervening organizational mechanisms through which dynamic capabilities are associated with performance (Scheuer & Thaler, 2023; Li et al., 2022; Hernández-Linares et al., 2024). Scheuer and Thaler (2023), in a

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systematic review of the literature, identified a diverse and fragmented set of mediating mechanisms, indicating that the processes through which dynamic capabilities are translated into performance remain insufficiently integrated. Similarly, Dayangan and Aykol (2026) identified continuing theoretical and methodological gaps in explaining how dynamic capabilities contribute to export-firm performance. Empirical studies have examined different mechanisms. Pundziene et al. (2022), using structural equation modelling with 465 enterprises, found that open innovation partially mediated the relationship between dynamic capabilities and competitive performance. Hernández-Linares et al. (2024), based on 1,047 small and medium-sized firms in Spain and Portugal, identified entrepreneurial orientation as a partial mediator. Hermano et al. (2022) identified project and portfolio performance as intervening mechanisms, while Li et al. (2022) found that digital technology-enabled dynamic capabilities operated through market-capitalizing agility and operational-adjustment agility. Collectively, these studies establish the importance of intervening processes but leave a theoretical and empirical gap concerning governance as a mechanism through which dynamic capabilities may be translated into performance, particularly in standards-driven export environments.

A second body of research demonstrates that governance mechanisms are associated with organizational and operational outcomes, but this literature has generally developed separately from the dynamic capabilities–performance literature. Using 246 responses from Chinese manufacturing enterprises, Um (2024) found that both contractual and relational governance were associated with improved operational performance, with relational governance being particularly important under conditions of product complexity. Cislaghi et al. (2023) demonstrated that relational rents in food supply chains can arise from the complementary use of formal and informal governance processes. Using longitudinal matched data, Tong et al. (2022) found that supply-chain security certification improved operational performance, while Islam and Chadee (2024) found that adaptive governance was associated with supplier resilience and longer-term supplier performance during periods of disruption. Although these studies demonstrate the performance relevance of governance, they do not explain whether governance functions as an intervening mechanism linking dynamic capabilities to multidimensional firm performance. Thus, a conceptual and empirical gap remains between research on governance–performance relationships and research on dynamic capabilities–performance relationships.

The Kenyan horticulture literature provides a strong contextual foundation but does not resolve this integrated mechanism. Pasquali et al. (2021) established an association between multichain strategies and economic upgrading, while Krishnan (2023) demonstrated how supplier embeddedness shapes dependency and opportunity within Kenyan horticultural value chains. Githiga et al. (2024) examined the role of certification in horticultural production, and Alford et al. (2024) described the polycentric governance of intersecting Kenyan fresh-fruit and vegetable value chains. Collectively, these studies demonstrate the importance of governance, certification, embeddedness, and value-chain

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positioning in the Kenyan horticulture sector. However, they do not examine whether firm-level value chain governance mediates the relationship between dynamic capabilities and multidimensional firm performance. Consequently, a contextual and empirical gap remains regarding how exporters' sensing, seizing, and reconfiguration capabilities are associated with governance arrangements and, in turn, with financial, customer, internal-process, and learning-and-growth outcomes.

The present study addresses these gaps by integrating dynamic capabilities, value chain governance, and multidimensional firm performance within a single firm-level mediation model. Dynamic capabilities are represented by sensing, seizing, and reconfiguration, while value chain governance encompasses contracts, standards and certification, ESG practices, firm-buyer relationships, and regulatory compliance. Firm performance is examined across financial, customer, internal-process, and learning-and-growth dimensions. The study therefore moves beyond examining the direct importance of dynamic capabilities or the independent performance effects of governance to assess whether value chain governance constitutes an intervening pathway through which dynamic capabilities are associated with firm performance in Kenya's export horticulture industry.

Framework for Conceptualization

According to the conceptual model, dynamic capabilities are the independent construct, value chain governance is the mediator, and firm performance is the dependent construct. Path a is the connection between dynamic capabilities and value chain governance; path b is the link between value chain governance and firm performance; and path c′ is the residual direct link between dynamic capabilities and firm performance when the mediator is present. The proposed mediation function is denoted by the indirect route a × b. Theoretical and empirical arguments are integrated in Figure 1.

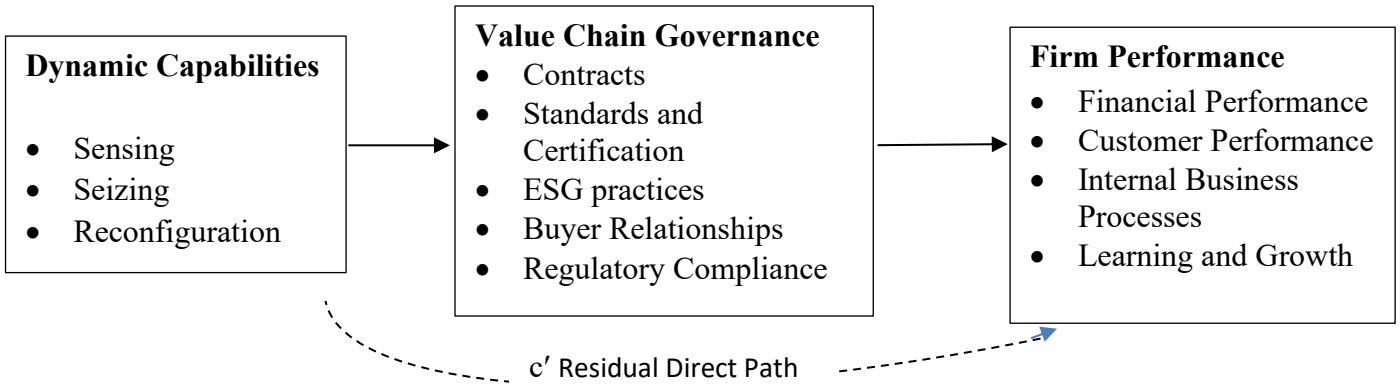


Figure1. Conceptual Framework

Source: Researcher, 2025

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Research Hypothesis

The investigation was guided by the following null hypothesis:

H01: Value Chain Governance does not mediate the relationship between dynamic capabilities and firm performance among export horticulture firms in Kenya.

Methodology

Population, Data Collection, and Study Design

A positivist philosophy and a cross-sectional explanatory design were adopted. This approach was suitable for testing hypothesized relationships among organizational constructs using standardized survey data collected at a single point in time. Cross-sectional designs facilitate the examination of relationships within real organizational contexts but do not establish temporal causation (Saunders et al., 2023). Dynamic capabilities, value chain governance, and firm performance were examined at the organizational level; therefore, the export horticulture firm served as the unit of analysis.

As of August 2025, the Fresh Produce Exporters Association of Kenya (FPEAK) included 193-member firms engaged in exporting horticultural products, such as fresh flowers, vegetables, and fruits, to international markets. A census approach was selected due to the relatively narrow and identifiable population, its strategic relevance, and the accessibility of member firms for firm-level inquiry. Of the 193 firms targeted, 182 provided complete and usable questionnaires, resulting in a response rate of 94.3%. The census approach enabled evidence to be obtained from the entire defined population of eligible FPEAK member firms and minimized sampling error associated with selecting a subset of firms. One senior informant was targeted from each participating firm. Respondents included business owners, directors, and senior managers responsible for strategy, operations, marketing, quality assurance, technical compliance, or export management. These individuals were selected for their expertise in the firm's dynamic capabilities, governance arrangements, and organizational performance.

Primary data were collected using a structured questionnaire developed based on the study's conceptual framework and relevant literature. The instrument included sections on respondent and company characteristics, dynamic capabilities, value chain governance, and firm performance. Constructs were adapted to the export horticulture context while preserving the theoretical integrity of the original domains. Responses were recorded on a five-point Likert scale, where 1 indicated strong disagreement, and 5 indicated strong agreement. One designated respondent completed the questionnaire for each firm. Participation was voluntary, and respondents were informed that firm-level responses would remain anonymous and be reported in aggregate form. The final dataset comprised 182 valid questionnaires.

Measurement and Data Analysis

Dynamic capabilities were operationalized as sensing, seizing, and reconfiguration. Sensing items addressed environmental scanning and identification of changes in standards, buyers, regulations, and markets. Seizing reflected strategic commitment, investment, and resource mobilization in response to identified opportunities or risks. Reconfiguration addressed changes to structures, procedures, resources, and

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external relationships (Teece, 2007). Value chain governance was operationalized through contracts, standards and certification, ESG practices, firm-buyer relationships, and regulatory compliance. These dimensions represent contractual control, defined standards, relational coordination, and institutional compliance (Gereffi et al., 2005; Dallas et al., 2019; Ponte, 2023).

Firm performance was evaluated using the financial, customer, internal process, and learning and growth perspectives of the Balanced Scorecard (Kaplan & Norton, 1996; Kumar et al., 2024). SmartPLS 4 was employed to estimate the measurement and structural models, following the two-stage approach to partial least squares structural equation modeling (PLS-SEM) (Hair et al., 2022). The measurement model was assessed using indicator loadings, Cronbach's alpha, rho_A, composite reliability, average variance extracted (AVE), and the heterotrait-monotrait ratio (HTMT). Indicator loadings of 0.70 or higher, reliability coefficients of 0.70 or higher, AVE values above 0.50, and HTMT ratios below 0.90 served as the principal assessment criteria (Henseler et al., 2015; Hair et al., 2022). High reliability estimates are not always preferable, as coefficients approaching unity may indicate redundancy among indicators.

The structural model was evaluated using standardized path coefficients, t-statistics, p-values, coefficients of determination, effect sizes, and predictive relevance. Bootstrapping with 5,000 resamples was conducted to assess total, direct, and indirect effects, including the paths from dynamic capabilities to value chain governance, from value chain governance to firm performance, the residual direct effect, and the indirect effect. Mediation was evaluated based on the bootstrapped indirect effect and the residual direct effect (Nitzl et al., 2016; Zhao et al., 2010). Predictive relevance was assessed using Q^2_predict, root mean square error (RMSE), and mean absolute error (MAE) (Shmueli et al., 2019).

Findings

Respondent and Firm Profile

Table 1. *Profile of participating firms and respondents*

Characteristic	Category	Result
Firm age	Less than 5 years	8.7%
Firm age	5-10 years	33.3%
Firm age	11-20 years	23.0%
Firm age	More than 20 years	35.0%

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Respondent eligibility	Owner, director or senior manager responsible for strategy, operations, marketing, quality or technical compliance, or export management	182 usable responses

Source: Research Data, 2025

The included firms exhibit diverse levels of organizational expertise. Firms operating for over 20 years constituted the largest category at 35.0%, followed by those in business for 5-10 years at 33.3%, 11-20 years at 23.0%, and those with fewer than five years at 8.7%. Each questionnaire was completed by a senior informant with expertise in firm-level competencies, governance, and performance, given their responsibilities. The single-informant approach aligns with the organizational unit of analysis; however, the evidence relies on management perspectives rather than validated assessments from multiple respondents within each organization (e.g., Fombrun et al. 2000; Schoorman et al., 2005).

Measurement Model

Table 2. *Reliability and Convergent validity of the measurement model*

Construct	Dimensions	Loading range	α	rho_A	CR	AVE
Dynamic capabilities	Sensing; seizing; reconfiguration	.997-.998	.997	.997	.998	.995
Value chain governance	Contracts; standards and certification; ESG practices; buyer relationships; regulatory compliance	.802-.979	.962	.962	.971	.848
Firm performance	Financial; customer; internal process; learning and growth	.999-1.000	1.000	1.000	1.000	.999

Source: Research Data, 2025

Note: Cronbach's alpha (α), rho_A (ρA), composite reliability (CR), average variance extracted (AVE), and ESG (environmental, social, and governance) are key metrics in assessing measurement models.

All retained indicators met the specified loading requirement. Cronbach's alpha, rho_A, and composite reliability for each construct exceeded the threshold. Seventy, with the average variance extracted exceeding .50, demonstrates indicator reliability, internal consistency, and convergent validity (Hair et al., 2022). Nevertheless, the near-unity estimates of dynamic capabilities and robust performance warrant caution. Such coefficients may indicate a significant degree of similarity among indicators, thereby enhancing confidence

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in the construct's accuracy; the implications of scale refinement are outlined in the recommendations.

Table 3. *Heterotrait - Monotrait Ratios*

Construct pair	HTMT
Dynamic capabilities - Firm performance	.584
Dynamic capabilities - Value chain governance	.823
Value chain governance - Firm performance	.818

Source: Research Data, 2025

Note. HTMT values below 0.90 indicate satisfactory discriminant validity.

All heterotrait-monotrait ratios were below 0.90. The highest ratio observed was between dynamic capabilities and value chain governance (0.823), followed closely by the ratio between value chain governance and firm performance (0.818). The ratio of dynamic capabilities to firm performance was 0.584. Consequently, the constructs were empirically distinguishable. while maintaining the necessary conceptual connections, as anticipated by the mediation model.

Table 4. *Determination regarding hypothesis and mediation analysis.*

Effect/path	β	SE	t	p	Interpretation
Total effect: DC-FP	.578	.116	4.962	<.001	Significant
Path a: DC - VCG	.812	.033	24.451	<.001	Significant
Path b: VCG - FP	.867	.201	4.307	<.001	Significant
Direct effect c': DC - FP	-.126	.099	1.270	.204	Not significant
Indirect effect: DC - VCG - FP	.704	.175	4.033	<.001	Indirect-only Mediation; reject H_{01}

Source: Research Data, 2025

Note: DC refers to dynamic capabilities, VCG denotes value chain governance, FP indicates firm performance, β represents the standardized path coefficient, and SE stands for standard error. The indirect effects were assessed through 5,000 bootstrapping resamples.

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Significant positive associations were identified between dynamic capabilities and firm performance ($\beta = .578$, $t = 4.962$, $p < .001$) and between dynamic capabilities and value chain governance ($\beta = .812$, $t = 24.451$, $p < .001$). Value chain governance is positively correlated with company performance ($\beta = .867$, $t = 4.307$, $p < .001$). These component routes delineate the empirical sequence required to assess the predicted indirect link.

The incorporation of value chain governance into the model yielded a negative, yet statistically insignificant, direct relationship between dynamic capabilities and firm performance ($\beta = -.126$, $t = 1.270$, $p = .204$). The bootstrapped indirect impact from value chain governance was both positive and significant ($\beta = .704$, $t = 4.033$, $p < .001$). The decomposition demonstrated internal consistency, with the overall impact (.578) equaling the direct effect (-.126) plus the indirect effect (.704), leading to the rejection of H01.

The observed pattern indicates indirect-only mediation (Zhao et al., 2010). This categorization indicates that the indirect relationship was significant in the estimate; however, no residual direct association was statistically significant when the mediator was included. It does not identify governance as the sole causal pathway, and the non-significant negative coefficient does not suggest that dynamic capabilities diminish performance. Both findings would extend beyond the limitations of a cross-sectional model.

Table 5. *Structural Model Explanatory Power, Effect Size and Predictive Relevance*

Metric	Construct or path	Value	Interpretation
R^2 / adjusted R^2	Value chain governance	.659 / .656	Substantial explained variance
R^2 / adjusted R^2	Firm performance	.687 / .678	Substantial explained variance
f^2	Dynamic capabilities -Value chain governance	1.930	Very large effect
f^2	Value chain governance - Firm performance	.366	Large effect
f^2	Dynamic capabilities - Firm performance	.015	Negligible direct effect
Q^2predict; RMSE; MAE	Value chain governance	.652; .599; .459	Predictive relevance
Q^2predict; RMSE; MAE	Firm performance	.396; .788; .676	Predictive relevance

Source: Research Data, 2025

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Note. Q^2predict scores greater than zero indicate predictive significance. A smaller root mean square error (RMSE) and mean absolute error (MAE) indicate greater prediction accuracy.

Dynamic capabilities explained 65.9% of the variation in value chain governance. Dynamic capabilities and value chain governance collectively explained 68.7% of the variance in firm performance. The dynamic capabilities-value chain governance route exhibited a significant effect size (f2 = 1.930), whereas the value chain governance-firm performance path demonstrated a considerable effect size (f2 = .366), and the residual direct path revealed a minimal effect size (f2 = .015). Positive Q^2predict scores for value chain governance (.652) and company performance (.396) indicate predictive significance. The magnitude of the effect and the prediction outcomes aligned with the findings of the mediation analysis.

Discussion

The findings support the study's hypothesis that value chain governance mediates the relationship between dynamic capabilities and firm performance in the estimated model. The findings indicate that dynamic capabilities are positively associated with governance, governance is linked to performance, and this indirect relationship remains significant even when the direct pathway becomes non-significant. Consequently, the evidence shifts the explanation from a basic relationship between capabilities and performance to a process wherein sensing, seizing, and reconfiguration enhance performance relevance through coordinated contractual, certification, relational, environmental, and regulatory activities.

The robust dynamic capabilities-value chain governance channel suggests that governance is not solely imposed on exporters externally. Firms exhibiting greater adaptive skills demonstrated enhanced capabilities in renewing contracts, aligning standards, deploying certification resources, modifying traceability methods, and managing buyer connections. This perspective aligns with Dynamic Capabilities Theory, as reconfiguration encompasses both internal routines and external interactions (Teece, 2007). This aligns with the findings of Ren and Peng (2021), which indicate that global dynamic capabilities affect partnership governance decisions, and with Choksy et al. (2022), which demonstrate that the configuration of current governance and upgrading arrangements influences supplier responses to disruption. The present study builds upon these findings by assessing governance as an organizational mechanism in export horticulture.

The positive correlation between governance and performance highlights the strategic importance of formal control and relational coordination. Um (2024) found that both contractual and relational governance enhanced operational performance. Cislaghi et al. (2023) demonstrated that integrating formal and informal procedures yielded relational rents in food supply chains. Verified supply chain certification enhanced performance (Tong et al., 2022), whereas adaptive governance bolstered supplier resilience (Islam and Chadee, 2024). This outcome is particularly plausible in Kenya's horticultural sector, where market participation relies on documented compliance, credible traceability, consistent quality, and timely coordination with buyers. Consequently, governance may influence

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consumer confidence, the consistency of internal processes, learning outcomes, and financial implications.

The main theoretical contribution of this study is the identification of the indirect-only mediation pattern. Prior studies have identified entrepreneurial orientation, open innovation, agility, and project or portfolio performance as mechanisms linking dynamic capabilities to performance (Hermano et al., 2022; Hernández-Linares et al., 2024; Li et al., 2022; Pundziene et al., 2022). The existing data indicate that value chain governance is an appropriate mechanism for an industry in which adaptation requires cross-organizational verification before safeguarding or enhancing market value. This does not imply that dynamic skills lack relevance; instead, the observed performance relationship was concentrated along the governance pathway as indicated by the model. The results integrate the three theoretical perspectives. The Dynamic Capabilities Theory elucidates how firms identify and adapt to changes, Transaction Cost Economics clarifies the role of contracts, monitoring, and compliance controls in mitigating exchange risks, and the Relational View highlights the value generated through information sharing, complementary resources, and buyer-supplier coordination. Value chain governance encompasses the integration of these roles. It functions as a strategic renewal object, as well as a control architecture and a mechanism for relational coordination. This synthesis offers a more accurate representation of firm-level adaptability within global value chains.

Understanding the extent of structural linkages necessitates discipline. Reliability coefficients nearing 1.00 for dynamic capabilities and company performance suggest a high degree of item similarity. Additionally, relying on a single senior informant per organization increases the risk of common method and perceptual biases. Moreover, cross-sectional data cannot ascertain whether competence growth preceded governance renewal or if governance and performance mutually reinforced capability over time. Consequently, the data indicate an internally consistent indirect link within the estimated model, rather than a singular or temporally ordered causal mechanism.

In summary, the discussion elucidates the interconnection between capability development and governance renewal within a standards-intensive export industry. Market information that remains untransformed into modified duties, resources, records, or connections may increase awareness without enhancing outcomes. Governance systems that are not regularly updated may become ceremonial, fragmented, or ineffective. Performance is likely to occur when adaptive choices are grounded in credible, integrated, and relationally viable governance processes.

Recommendations

Export horticulture companies should consider capacity development and governance renewal as a unified strategic initiative. Environmental scanning must yield documented evaluations of buyer specifications, residue limits, certification criteria, sustainability expectations, and logistical hazards. The results of these evaluations must be assigned to designated owners and incorporated into contract revisions, supplier instructions, testing plans, traceability controls, staff

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development, and corrective-action schedules. This technique would continue to detect and seize opportunities without concluding at the level of management awareness.

Firms should establish cross-functional governance structures encompassing strategy, operations, quality assurance, marketing, procurement, and export management. Governance dashboards must incorporate leading indicators, including audit results, corrective action closure, supplier compliance, traceability completeness, and buyer reaction time, in addition to financial, customer, internal process, and learning and growth outcomes. Early buyer engagement, supplier development, and structured information sharing should complement formal controls to ensure credible compliance while preserving adaptability.

Regulators, industry groups, and export assistance organizations must collaborate to share information regarding evolving standards to avoid redundancy in certification, inspection, and reporting obligations. Smaller exporters facing substantial fixed compliance costs would gain considerable advantages from shared training resources, compatible traceability systems, readily available laboratory services, standardized contractual guidelines, and focused certification support. Policy assistance should enhance enterprises' capacity to meet governance requirements rather than merely promoting checklist compliance.

Future research should employ longitudinal and multi-source designs to establish temporal ordering and reduce common-method bias. The assessment scales require modification to incorporate near-unity reliability estimations. Additionally, subjective performance should be integrated with objective indicators, including export rejection rates, certification continuity, customer retention, market diversity, and financial development. Comparative research across nations and agricultural export sectors should examine the model's boundary conditions and explore additional mediators without presuming that value chain governance is the only method.

Conclusion.

This study examined the function of value chain governance as a mediator in the relationship between dynamic capabilities and firm performance within Kenyan export horticultural enterprises. The findings indicated a robust indirect relationship through value chain governance; however, no statistically significant direct association remained once governance was considered. Consequently, the data support indirect-only mediation in the anticipated cross-sectional model, providing a precise answer to the study's objective.

The primary conclusion is that dynamic capabilities require active execution and cannot operate autonomously. Their performance value is established through an implementation architecture that transforms sensing, seizing, and reconfiguring into integrated contracts, standards, certification procedures, environmental and social controls, buyer relationships, and regulatory compliance. Value chain governance links firm-level strategy adaptability to the external credibility and operational consistency required in buyer-driven export markets.

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This study contributes to the integration of dynamic capabilities research with transaction-cost and relational frameworks in the context of global value-chain governance. The findings are limited by the cross-sectional design, reliance on a single informant, and the relatively high reliability estimates for two constructs. Within those parameters, the findings offer a clear explanation of how adaptive capability is relevant to performance in Kenya's standards-driven export horticulture sector.

Ethical Approval

Appropriate research approvals and license were obtained via NACOSTI/P/25/4175914

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Conflicts of Interest

The author declares no conflicts of interest associated with this research.

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