A Robust Methodological Framework for Assessing Entrepreneurial Marketing, Supply Chain Resilience, and Sustainable Competitive Advantage in SMEs: A PLS-SEM Approach

Omary K. Mbura[1] and Hamisi Fintan[2]

Abstract

This study develops and empirically tests an integrated framework linking Entrepreneurial Marketing (EM), Supply Chain Resilience (SCR), and Sustainable Competitive Advantage (SCA) in Tanzanian food-processing SMEs. A survey of 255 SMEs was analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) in R. Results show that EM significantly enhances SCR and SCA, and that SCR partially mediates the EM→SCA relationship. Robustness checks including bootstrapped confidence intervals, HTMT, SRMR, and PLSpredict support model validity and predictive relevance. Theoretically, the study advances Resource-Based Theory and Dynamic Capabilities Theory by conceptualizing SCR as a dynamic, intangible resource that channels entrepreneurial marketing into sustained competitive advantage. Practically, findings recommend that SMEs combine entrepreneurial marketing tactics with resilience-enhancing supply-chain practices to sustain competitiveness in volatile emerging markets. Policy implications suggest integrating entrepreneurial marketing training into existing SME support programs administered by institutions such as SIDO and the Ministry of Industry and Trade.

Keywords: Entrepreneurial marketing; supply chain resilience; sustainable competitive advantage; SMEs; PLS-SEM; Tanzania

Introduction

Small and medium-sized enterprises are central engines of economic growth and employment in emerging economies, accounting for the vast majority of firms and a substantial share of national employment (OECD, 2022; World Bank, 2023). Yet SMEs frequently operate under severe resource constraints and high external uncertainty, which makes them particularly vulnerable to supply-chain disruptions and market turbulence (Ivanov & Dolgui, 2020; Chowdhury et al., 2022). In such contexts, firms that combine entrepreneurial market orientation with resilient supply-chain practices are more likely to survive and sustain competitive advantage. Despite the practical importance of these phenomena, theoretical and empirical understanding of how entrepreneurial marketing interacts with supply chain resilience to generate sustainable competitive advantage for SMEs remains incomplete. Existing literature has examined entrepreneurial marketing and supply chain resilience largely in isolation. Entrepreneurial marketing research has documented how proactiveness, innovativeness, customer intensity, and resource leveraging enable smaller firms to identify and exploit market opportunities under resource constraints (Morris et al., 2002; Kraus et al., 2012; Hills et al., 2008). Separately, supply

[1] University of Dar es Salaam Business School, Tanzania
Email: mburao@yahoo.com
[2] University of Dar es Salaam Business School, Tanzania

chain resilience scholarship shows that agility, visibility, collaboration, and adaptability reduce vulnerability to disruption and strengthen firm performance (Ponis & Koronis, 2012; Tukamuhabwa et al., 2017; Kamalahmadi & Parast, 2016). However, these streams have rarely been empirically integrated into a single framework that explains the mechanisms through which entrepreneurial marketing practices translate into sustained competitive advantage via supply chain resilience. This separation leaves a theoretical gap: it is not yet fully understood whether, and through which mechanisms, marketing-driven entrepreneurial practices bolster a firm's supply chain capabilities and thereby generate enduring competitive advantage in volatile, resource-constrained settings (Al-Hakimi et al., 2021; Wieland, 2021).

Methodologically, the literature also shows limitations. Prior entrepreneurial marketing studies often rely on qualitative case evidence or small-scale surveys, while supply chain resilience research frequently uses simulation or covariance-based approaches that are less well suited to predictive modeling with complex, higher-order constructs (Hair et al., 2019; Sarstedt et al., 2022). There is a need for rigorous, empirically robust frameworks capable of modeling multidimensional constructs and testing mediation and predictive performance in SME contexts (Ringle et al., 2020). Applying variance-based structural modeling with contemporary tools provides an appropriate and powerful approach to these analytical challenges because it accommodates complex models with higher-order constructs, does not require normal data distribution, and supports predictive assessment (Henseler et al., 2015; Hair et al., 2021). This study addresses these theoretical and methodological gaps by developing and empirically testing an integrated model that links entrepreneurial marketing, supply chain resilience, and sustainable competitive advantage among food-processing SMEs in Tanzania. Building on Resource-Based Theory and Dynamic Capabilities Theory, the model conceptualizes supply chain resilience as a dynamic, intangible resource that channels the effects of entrepreneurial marketing into sustained competitive advantage (Barney, 1991; Teece et al., 1997; Eisenhardt & Martin, 2000). Specifically, the study proposes that entrepreneurial marketing positively influences supply chain resilience, that supply chain resilience positively affects sustainable competitive advantage, and that supply chain resilience mediates the relationship between entrepreneurial marketing and sustainable competitive advantage. The study addresses three objectives: to examine whether entrepreneurial marketing positively influences supply chain resilience; to assess the effect of supply chain resilience on sustainable competitive advantage; and to test whether supply chain resilience mediates the relationship between entrepreneurial marketing and sustainable competitive advantage (Zhai et al., 2023; Pu et al., 2023).

Theoretical Framework

This study is anchored on two complementary theories: Resource-Based Theory and Dynamic Capabilities Theory. Together these theories explain why particular firm resources matter for long-run advantage and how firms reconfigure resources under volatile conditions. Resource-Based Theory posits that heterogeneously distributed firm resources that are valuable, rare, imperfectly imitable, and non-substitutable provide the foundation for sustained competitive advantage (Barney, 1991). From this perspective, sustainable competitive advantage arises when firms accumulate and protect resources and capabilities that competitors cannot easily replicate. For SMEs operating in emerging markets where financial and technological slack is limited, intangible resources such as market knowledge, customer relationships, innovativeness, and adaptive routines often become the most consequential sources of sustained advantage (Newbert, 2007; Barney & Hesterly, 2019). In this study, supply chain resilience is conceptualized as an

intangible, strategic resource: a firm-level capability bundle comprising agility, visibility, collaboration, and adaptability that lowers the cost and likelihood of disruption and thereby supports enduring competitive positions (Ponis & Koronis, 2012; Wieland, 2021; Tukamuhabwa et al., 2017).

While Resource-Based Theory explains the value of possessing resources, Dynamic Capabilities Theory explains how firms sense, seize, and reconfigure resources in rapidly changing environments (Teece et al., 1997; Teece, 2007). Dynamic capabilities are the firm's higher-order routines that enable adaptation and renewal when markets, technologies, or supply conditions shift (Eisenhardt & Martin, 2000; Helfat & Peteraf, 2015). In the supply chain domain, resilience is best understood as a dynamic capability: firms that can detect early signs of disruption, mobilize alternative suppliers or inventory policies, and restructure processes or partnerships are better positioned to maintain operations and preserve competitive positions (Christopher & Peck, 2004; Dubey et al., 2021; Mandal, 2017). Dynamic Capabilities Theory therefore complements Resource-Based Theory by explaining the processes through which marketing-generated resources are actively transformed into resilient supply chain capabilities that underpin sustainable competitive advantage. Entrepreneurial marketing practices such as proactiveness, innovativeness, customer intensity, and resource leveraging function as the sensing and seizing mechanisms that feed into dynamic capability development (Morris et al., 2002; Kraus et al., 2012). Customer intensity enhances a firm's sensing capacity by improving market foresight; resource leveraging provides the means to seize emerging opportunities; and innovativeness supports rapid reconfiguration of offerings and processes (Eggers et al., 2020; Becherer et al., 2012). Thus, entrepreneurial marketing operates at two levels: it produces strategically valuable resources and it supplies the routines and managerial mindsets necessary to convert those resources into dynamic capabilities.

Empirical Literature and Hypothesis Formulation

Entrepreneurial Marketing and Supply Chain Resilience

A growing empirical literature links entrepreneurial marketing behaviors to superior supply chain outcomes. Field studies of SMEs and manufacturing firms show that proactive market scanning and strong customer ties improve firms' ability to detect demand and supply signals early and to mobilize rapid responses (Morris et al., 2002; Eggers et al., 2020). In contexts similar to the present study, researchers have found that entrepreneurial orientation and innovation significantly predict resilience outcomes in SMEs, while studies in other emerging markets show that entrepreneurial dimensions enhance supply chain performance and resilience (Al-Hakimi et al., 2021; Haq & Aslam, 2023; Asare-Kyire et al., 2023). Mechanistically, entrepreneurial marketing contributes to supply chain resilience through three linked processes. First, sensing: proactiveness and customer intensity increase market awareness and early detection of disruptions, enabling pre-emptive adjustments to procurement and production plans (Teece, 2007). Second, seizing: resource leveraging and innovativeness permit SMEs to reconfigure scarce inputs and deploy creative substitutes when standard suppliers fail (Dubey et al., 2021). Third, coordination and relational buffering: value creation practices foster collaborative ties with suppliers and customers that improve information flows and contractual flexibility, which together raise visibility and responsiveness during shocks (Ponis & Koronis, 2012; Chowdhury et al., 2022). Based on this theoretical logic and converging empirical evidence, the following hypothesis is proposed:

H1: *Entrepreneurial marketing has a positive effect on supply chain resilience.*

Supply Chain Resilience and Sustainable Competitive Advantage

Research grounded in Resource-Based Theory indicates that capabilities which preserve performance under stress and that are difficult to imitate are sources of sustained advantage (Barney, 1991; Newbert, 2007). Supply chain resilience, operationalized as agility, visibility, collaboration, and adaptability, enables firms to maintain service levels, reduce disruption costs, and preserve reputational capital under adverse conditions. Empirical studies across sectors show that supply chain resilience and its components predict performance and competitive outcomes. Researchers have documented that resilient practices improve firms' operational continuity and market outcomes, while recent large-sample studies report positive effects of resilience on performance (Tukamuhabwa et al., 2017; Pu et al., 2023; Tarigan et al., 2021). The causal mechanisms are straightforward. A resilient supply chain reduces the frequency and impact of service failures, supporting customer retention and long-run revenue; lowers the cost of interruptions, improving profitability; and enables firms to sustain delivery reliability that competitors without similar capabilities find costly to imitate (Wieland, 2021; Ivanov & Dolgui, 2020). Visibility and collaboration, in particular, create relational advantages including trusted partnerships and preferential access to scarce inputs that meet the VRIN criteria and thus underpin sustainable competitive advantage (Christopher & Peck, 2004; Mandal, 2017). Given these theoretical and empirical linkages, the following hypothesis is proposed:

H2: *Supply chain resilience has a positive effect on sustainable competitive advantage.*

Entrepreneurial Marketing and Sustainable Competitive Advantage

A substantial body of empirical research demonstrates that entrepreneurial marketing practices contribute directly to firm performance and competitive positioning. Studies of SMEs across diverse settings find that entrepreneurial marketing dimensions including innovativeness, proactiveness, customer intensity, and resource leveraging are positively associated with market performance, differentiation, and profitability (Morris et al., 2002; Becherer et al., 2012; Zhai et al., 2023). In resource-constrained environments, creative marketing and close customer engagement allow smaller firms to carve out niche positions and sustain margins without replicating the capital intensity of larger rivals (Fard & Amiri, 2018; Deku et al., 2023; Hills et al., 2008). The pathway from entrepreneurial marketing to sustainable competitive advantage operates via differentiation and customer-level mechanisms. Innovativeness and value creation enable unique product-market combinations; customer intensity strengthens loyalty and lifetime value; resource leveraging allows firms to achieve disproportionate market impact with limited inputs (Eggers et al., 2020; Kraus et al., 2012). These outcomes satisfy Resource-Based Theory conditions for sustained advantage because the marketing-derived resources, including tacit customer knowledge, bespoke relationships, and locally adapted processes, are often idiosyncratic and difficult to duplicate (Barney & Hesterly, 2019; Newbert, 2007). Empirical evidence consistent with these mechanisms shows direct positive entrepreneurial marketing effects on performance even after controlling for firm and market characteristics (Ouragini & Lakhal, 2023; Nyello & Kalufya, 2021). Therefore, the following hypothesis is proposed:

H3: *Entrepreneurial marketing has a positive effect on sustainable competitive advantage.*

The Mediating Role of Supply Chain Resilience

Integrating the prior arguments positions supply chain resilience as the process mechanism through which entrepreneurial marketing translates marketing-generated resources into durable competitive outcomes. Several empirical studies have found mediation effects of resilience or related capabilities in analogous relationships. Researchers have found that supply chain resilience mediates the link between data analytics capability and competitive advantage, that it mediates the relationship between entrepreneurial resilience and SME performance, and that it mediates the link between entrepreneurial leadership and supply chain performance (Rezaei et al., 2022; Wilujeng et al., 2021; Haq & Aslam, 2023). Mechanistically, entrepreneurial marketing generates sensing information, relational capital, and flexible resource deployment capability; supply chain resilience institutionalizes and amplifies these inputs by embedding them in supply chain practices such as supplier diversification, information systems for visibility, and collaborative planning (Dubey et al., 2021; Chowdhury et al., 2022). As a result, the returns to marketing investments are preserved and scaled rather than dissipated by shocks, producing sustained market position and profitability. Because entrepreneurial marketing can also produce direct differentiating benefits as proposed in H3, the mediation is expected to be partial rather than full in most real-world SME settings (Zhai et al., 2023; Pu et al., 2023). Accordingly, the following hypothesis is proposed:

H4: *Supply chain resilience mediates the positive effect entrepreneurial marketing on sustainable competitive advantage.*

Conceptual Framework

Figure 1 presents the conceptual framework guiding this study. The framework posits that entrepreneurial marketing, operationalized as a higher-order construct comprising proactiveness, innovativeness, resource leveraging, customer intensity, and value creation, influences sustainable competitive advantage both directly and indirectly through supply chain resilience, operationalized as agility, visibility, collaboration, and adaptability.

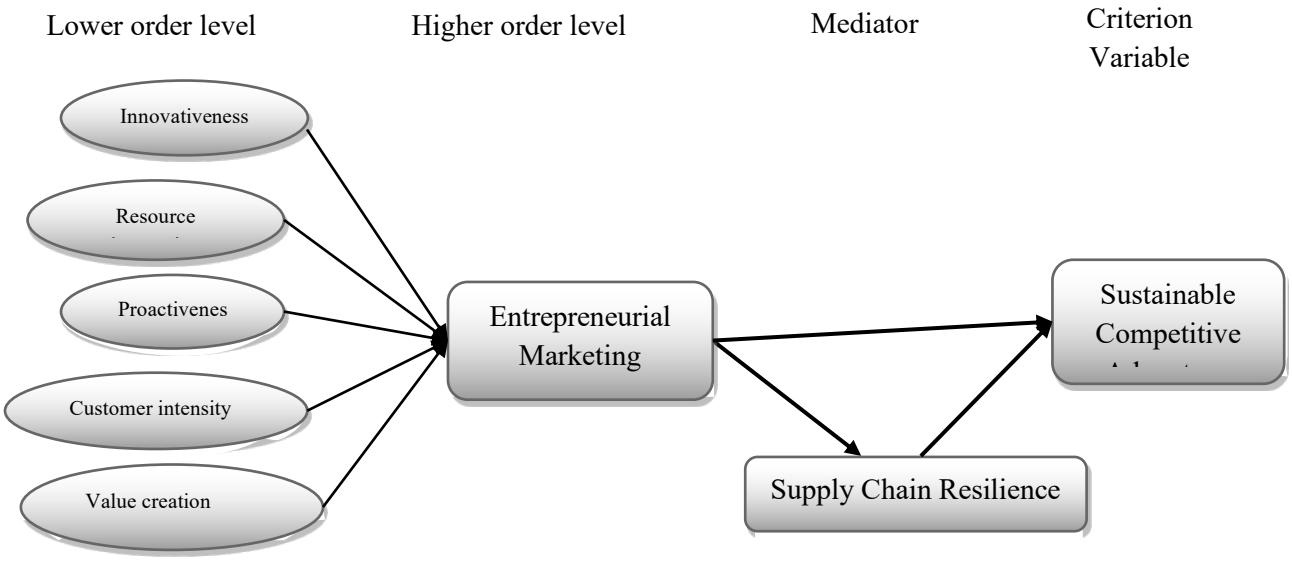

Figure 1: Conceptual Framework

Source: Authors' construction based on literature review

Methodology and Approaches

This study adopted a quantitative cross-sectional design to test theoretically derived relationships among entrepreneurial marketing, supply chain resilience, and sustainable competitive advantage. A cross-sectional survey is appropriate for examining multivariate relationships among latent constructs in a field setting and permits efficient estimation of mediation effects using variance-based structural equation modeling (Hair et al., 2019). The target population comprised small and medium enterprises operating in Tanzania's food-processing sector. To ensure representativeness across important firm characteristics, a sampling frame was constructed from trade association lists and regional SME registries. A stratified random sampling strategy was applied with strata defined by firm size (micro, small, medium), years of operation (less than five years; five years or more), and market scope (local; regional or international). A target sample of 300 firms was set based on recommendations for PLS-SEM analysis requiring minimum sample sizes of ten times the largest number of formative indicators or structural paths (Hair et al., 2019). A total of 255 valid responses were obtained, representing an 85% response rate. A priori power analysis using G*Power indicated that for a medium effect size ($f^2 = 0.15$), $\alpha = 0.05$, and power = 0.80, a minimum sample of 77 respondents was required; thus the achieved sample provides adequate statistical power (Faul et al., 2009).

Entrepreneurial marketing was operationalized as a higher-order formative construct comprising five dimensions: proactiveness, innovativeness, resource leveraging, customer intensity, and value creation. Items were adapted from established scales: proactiveness and innovativeness from Morris et al. (2002); resource leveraging from Kraus et al. (2012); customer intensity from Becherer et al. (2012); and value creation from Hills et al. (2008). Each dimension was measured using three to four items on five-point Likert scales where 1 represented strongly disagree and 5 represented strongly agree. Supply chain resilience was operationalized as a reflective construct measured through indicators of agility, visibility, collaboration, and adaptability adapted from Ponis and Koronis (2012) and Tukamuhabwa et al. (2017). Sustainable competitive advantage was operationalized as a reflective construct measured through indicators of market performance, differentiation, and long-term profitability adapted from Barney (1991) and Wieland (2021). A pilot study with 30 SME owners assessed clarity and face validity; minor wording adjustments were made based on feedback to enhance comprehension in the Tanzanian context. Data collection employed a hybrid approach combining electronic surveys and face-to-face interviews to accommodate variation in respondents' digital literacy and maximize response quality. The structured questionnaire was administered over a period of eight weeks. Ethical approval was obtained from the University of Dar es Salaam and Reginal commissioner office .All respondents provided informed consent, and data were anonymized prior to analysis.

Data were analyzed using Partial Least Squares Structural Equation Modeling implemented in the SEMinR package for R (Ringle et al., 2022). PLS-SEM was selected because it accommodates complex models with higher-order constructs, does not require normal data distribution, supports predictive assessment, and is appropriate for exploratory research extending existing theory (Hair et al., 2019; Henseler et al., 2015). A two-stage approach was employed to model the formative higher-order entrepreneurial marketing construct while preserving rigorous assessment of lower-order reflective measures (Sarstedt et al., 2019). In the first stage, the reflective measurement model for lower-order constructs was estimated and evaluated using indicator loadings, composite reliability, average variance extracted, Fornell-Larcker criteria, and HTMT ratios. In the second

stage, latent variable scores for lower-order dimensions were saved and used as formative indicators for the higher-order entrepreneurial marketing construct, with collinearity assessed using variance inflation factors and indicator weights evaluated for significance. The structural model was assessed using path coefficients with 10,000 bootstrap resamples, 95% bias-corrected confidence intervals, coefficients of determination, and effect sizes. Predictive relevance was evaluated using Stone-Geisser's Q^2 via blindfolding and PLSpredict to assess out-of-sample predictive power against linear model benchmarks. Common method bias was assessed using Harman's single-factor test and full-collinearity VIFs (Kock, 2015). Mediation was tested by estimating indirect effects with bootstrapped confidence intervals and computing Variance Accounted For where applicable (Preacher & Hayes, 2008).

Results

Descriptive Analysis

The analysis is based on 255 valid responses from food-processing SMEs in Tanzania. As shown in Table 1, the sample is heterogeneous with respect to size, age, and market scope. Regarding firm size, 52.2% of firms are micro enterprises with 1-9 employees, 34.9% are small enterprises with 10-49 employees, and 12.9% are medium enterprises with 50-99 employees. This distribution reflects the typical SME structure in Tanzania where micro enterprises dominate the sector. In terms of firm age, 60.0% of firms have operated for five years or more, indicating established operations with accumulated market experience, while 40.0% are relatively young firms with less than five years of operation. Regarding market scope, 65.1% focus primarily on local markets while 34.9% engage in regional or international trade, providing variation in market exposure and competitive dynamics. These descriptive patterns suggest adequate variation for testing both the primary structural model and subgroup comparisons.

Table 1: Sample Characteristics

Characteristic	Category	Frequency	Percentage
Firm Size	Micro (1-9 employees)	133	52.2
	Small (10-49 employees)	89	34.9
	Medium (50-99 employees)	33	12.9
Firm Age	Less than 5 years	102	40.0
	5 years or more	153	60.0
Market Scope	Local only	166	65.1
	Regional/International	89	34.9

Measurement Model Assessment

As shown in Table 2, all constructs demonstrated satisfactory reliability and convergent validity. Cronbach's alpha values ranged from 0.85 to 0.89, exceeding the recommended threshold of 0.70,

indicating good internal consistency (Nunnally & Bernstein, 1994). Composite reliability values ranged from 0.88 to 0.91, exceeding the recommended threshold of 0.70 and confirming that the indicators reliably measure their respective constructs (Hair et al., 2019). Average variance extracted values ranged from 0.60 to 0.65, exceeding the recommended threshold of 0.50, indicating that each construct explained more than half of the variance in its indicators and supporting convergent validity (Fornell & Larcker, 1981).

Table 2: Reliability and Convergent Validity

Construct	Cronbach's α	Composite Reliability	Average Variance Extracted	Square Root of AVE
Entrepreneurial Marketing	0.89	0.91	0.65	0.81
Supply Chain Resilience	0.85	0.88	0.60	0.78
Sustainable Competitive Advantage	0.87	0.90	0.63	0.79

Note: All indicator loadings exceeded 0.70 and were significant at $p < 0.001$.

Discriminant validity was assessed using both Fornell-Larcker and HTMT criteria. As shown in Table 3, the square roots of AVE for each construct (ranging from 0.78 to 0.81) exceeded its highest correlation with any other construct (ranging from 0.63 to 0.72), satisfying the Fornell-Larcker criterion (Fornell & Larcker, 1981). All HTMT ratios were below the conservative threshold of 0.85, with values ranging from 0.68 to 0.75, providing additional evidence of discriminant validity (Henseler et al., 2015). These results confirm that the three constructs are empirically distinct.

Table 3: Discriminant Validity (Fornell-Larcker and HTMT)

Construct	Entrepreneurial Marketing	Supply Chain Resilience	Sustainable Competitive Advantage
Entrepreneurial Marketing	**0.81**		
Supply Chain Resilience	0.68 (0.72)	**0.78**	

Construct	Entrepreneurial Marketing	Supply Chain Resilience	Sustainable Competitive Advantage
Sustainable Competitive Advantage	0.63 (0.68)	0.72 (0.75)	**0.79**

Note: Diagonal values (bold) are square roots of AVE. Off-diagonal values are inter-construct correlations. HTMT ratios are shown in parentheses.

Common Method Variance

Given the single-respondent survey design, common method variance was assessed using procedural and statistical remedies. Procedurally, anonymity was assured, neutral item wording was employed, and predictor and criterion variables were separated in the questionnaire (Podsakoff et al., 2003). Statistically, Harman's single-factor test revealed that no single factor accounted for a majority of variance, with the first factor explaining 32% of total variance, well below the 50% threshold. Full-collinearity VIFs for all latent constructs were below the conservative threshold of 3.3, with values ranging from 2.1 to 2.8, indicating that common method bias is unlikely to threaten validity (Kock, 2015).

Structural Model and Hypothesis Testing

Table 4 presents the structural model results. Entrepreneurial marketing had a positive and significant effect on supply chain resilience ($\beta = 0.42$, $p < 0.001$), supporting H1. This finding aligns with previous research by Al-Hakimi et al. (2021) who found positive effects of entrepreneurial orientation on resilience in Yemeni SMEs, and by Haq and Aslam (2023) who reported similar relationships in Pakistani manufacturing firms. The coefficient of determination ($R^2 = 0.41$) indicates that entrepreneurial marketing explains 41% of the variance in supply chain resilience, representing a moderate to substantial explanatory power (Hair et al., 2019). Supply chain resilience had a positive and significant effect on sustainable competitive advantage ($\beta = 0.48$, $p < 0.001$), supporting H2. This finding corroborates recent large-sample studies by Pu et al. (2023) who found that supply chain resilience positively influenced competitive advantage in Chinese manufacturing firms, and by Tarigan et al. (2021) who reported similar effects in Indonesian SMEs. The R^2 value of 0.55 for sustainable competitive advantage indicates that entrepreneurial marketing and supply chain resilience together explain 55% of the variance in sustainable competitive advantage, representing substantial explanatory power. Entrepreneurial marketing had a positive and significant direct effect on sustainable competitive advantage ($\beta = 0.36$, $p < 0.001$), supporting H3. This outcome aligns with prior entrepreneurial marketing literature showing direct links between entrepreneurial marketing dimensions and firm performance (Morris et al., 2002; Becherer et al., 2012; Zhai et al., 2023). The significant direct effect indicates that entrepreneurial marketing confers competitive advantages above and beyond its effect through supply chain resilience.

Table 4: Structural Model Path Coefficients

Hypothesis	Path	β	t-value	p-value	95% CI Lower	95% CI Upper	Decision
H1	EM → SCR	0.42	6.89	< 0.001	0.29	0.54	Supported
H2	SCR → SCA	0.48	7.21	< 0.001	0.36	0.60	Supported
H3	EM → SCA	0.36	5.98	< 0.001	0.23	0.48	Supported

Note: R^2 for SCR = 0.41; R^2 for SCA = 0.55. Bootstrapping based on 10,000 resamples.

Table 5 presents the mediation results. The indirect effect of entrepreneurial marketing on sustainable competitive advantage through supply chain resilience was positive and significant ($\beta = 0.20$, $p < 0.001$), while the direct effect remained significant ($\beta = 0.36$, $p < 0.001$), indicating partial mediation. The variance accounted for value of 36% indicates that supply chain resilience mediates approximately one-third of entrepreneurial marketing's total effect on sustainable competitive advantage. This finding is consistent with studies by Rezaei et al. (2022) who found partial mediation effects of resilience in capability-performance relationships, and by Wilujeng et al. (2021) who reported similar patterns in Indonesian SMEs. The partial mediation suggests that entrepreneurial marketing generates competitive advantages through dual channels: directly through market-facing mechanisms such as differentiation and customer loyalty, and indirectly by embedding resources into resilient supply chain practices that protect and amplify those advantages.

Table 5: Mediation Results (H4)

Effect	Estimate (β)	t-value	p-value	95% CI Lower	95% CI Upper
Direct (EM → SCA)	0.36	5.98	< 0.001	0.23	0.48
Indirect (EM → SCR → SCA)	0.20	4.45	< 0.001	0.11	0.29
Total (Direct + Indirect)	0.56	8.02	< 0.001	0.44	0.67

Note: VAF = Indirect/Total = 0.20/0.56 = 0.36 (36%)

Predictive Relevance and Model Diagnostics

As shown in Table 6, Stone-Geisser Q^2 values exceeded zero for both endogenous constructs, confirming predictive relevance (Geisser, 1974; Stone, 1974). The Q^2 value of 0.37 for sustainable competitive advantage exceeds the 0.35 benchmark for medium predictive strength (Hair et al., 2019). The SRMR value of 0.059 is below the recommended threshold of 0.08, indicating acceptable model fit (Hu & Bentler, 1999). PLSpredict results demonstrated that the model's RMSE values were consistently lower than those of linear model benchmarks for all indicators, indicating superior out-of-sample predictive performance and supporting the model's utility for forecasting applications (Shmueli et al., 2019).

Table 6: Predictive Relevance and Model Fit

Endogenous Construct	R^2	Q^2 (Blindfolding)	SRMR
Supply Chain Resilience	0.41	0.29	0.064
Sustainable Competitive Advantage	0.55	0.37	0.059

Note: PLSpredict results showed RMSE values below linear model benchmarks for all indicators.

Discussion

This study examined how entrepreneurial marketing influences sustainable competitive advantage in food-processing SMEs and whether supply chain resilience mediates that relationship. Using PLS-SEM on 255 Tanzanian SMEs and modeling entrepreneurial marketing as a formative higher-order construct, robust support was found for all hypothesized relationships. The findings demonstrate that entrepreneurial marketing positively influences both supply chain resilience and sustainable competitive advantage, that supply chain resilience positively influences sustainable competitive advantage, and that supply chain resilience partially mediates the relationship between entrepreneurial marketing and sustainable competitive advantage. The positive and significant effect of entrepreneurial marketing on supply chain resilience indicates that entrepreneurial marketing behaviors including proactiveness, innovativeness, resource leveraging, customer intensity, and value creation are important antecedents of supply chain resilience in SMEs. This finding aligns with research by Al-Hakimi et al. (2021) who found that entrepreneurial orientation improves firms' adaptive responses to shocks in Yemeni manufacturing SMEs, and by Singh et al. (2019) who reported positive relationships between entrepreneurial dimensions and supply chain performance in Indian SMEs. The finding also extends work by Asare-Kyire et al. (2023) who demonstrated links between entrepreneurial leadership and supply chain resilience in Ghanaian SMEs, showing that the effect holds across different emerging market contexts. Mechanistically, entrepreneurial marketing appears to strengthen supply chain resilience through improved sensing, seizing, and coordination capabilities. Proactiveness and customer intensity enhance a firm's ability to detect early warning signals of supply or demand disruptions, enabling pre-emptive adjustments to procurement and production plans (Teece, 2007). Innovativeness and resource leveraging permit creative redeployment of scarce inputs, such as developing alternative recipes using locally available ingredients when imports are disrupted (Dubey et al., 2021). Value creation practices foster collaborative ties with suppliers and customers that improve information flows and contractual

flexibility, raising visibility and responsiveness during shocks (Ponis & Koronis, 2012). These mechanisms align with Dynamic Capabilities Theory, which emphasizes that sensing, seizing, and reconfiguring routines are essential for adaptation in volatile environments (Teece et al., 1997; Eisenhardt & Martin, 2000).

The strong effect of supply chain resilience on sustainable competitive advantage indicates that resilience capabilities are not merely operational conveniences but strategic resources that materially improve competitive outcomes. Framed in Resource-Based Theory, supply chain resilience provides valuable, often tacit, capabilities including agility, visibility, collaboration, and adaptability that preserve service delivery and reduce disruption costs in ways competitors cannot easily replicate (Barney, 1991; Wieland, 2021). This result corroborates recent large-sample studies by Pu et al. (2023) who found that supply chain resilience positively influenced competitive advantage in Chinese manufacturing firms, and by Tarigan et al. (2021) who reported similar effects in Indonesian SMEs. The practical implication is that investments in resilience yield returns that accrue to competitive position rather than only to short-term operational continuity. For food-processing SMEs, developing supplier relationships, investing in demand visibility systems, and building flexible production capacity are not just risk management exercises but strategic moves that can differentiate the firm in the marketplace. When disruptions occur, resilient firms maintain service levels while competitors falter, building reputational capital and customer loyalty that persist long after the disruption passes (Christopher & Peck, 2004; Ivanov & Dolgui, 2020).

The direct positive effect of entrepreneurial marketing on sustainable competitive advantage indicates that entrepreneurial marketing confers competitive advantages above and beyond its effect through the supply chain. This outcome aligns with prior entrepreneurial marketing literature showing direct links between entrepreneurial marketing dimensions and firm performance (Morris et al., 2002; Becherer et al., 2012; Zhai et al., 2023). The direct pathway likely reflects marketing-level mechanisms: differentiation through innovative product offerings, higher customer loyalty from customer intensity, and efficiency gains via resource leveraging that improve profits and market position independently of supply chain structures (Eggers et al., 2020; Kraus et al., 2012). For food-processing SMEs in Tanzania, this suggests that investments in understanding customer needs, developing unique value propositions, and creatively deploying limited resources can generate competitive advantages even without corresponding investments in supply chain capabilities. A small processor might, for example, develop a unique spice blend that commands premium prices, or build such strong relationships with local retailers that they stock the product preferentially regardless of supply chain sophistication (Nyello & Kalufya, 2021).

The partial mediation finding, with 36% of entrepreneurial marketing's total effect on sustainable competitive advantage operating through supply chain resilience, reveals important insights about how entrepreneurial marketing works in practice. The coexistence of direct and mediated channels underscores the multi-path character of entrepreneurial marketing: it functions simultaneously as a market-facing strategist that directly creates customer value, and as an enabler of internal operational robustness that protects and amplifies that value. This finding reconciles studies that emphasize direct entrepreneurial marketing effects on performance with those highlighting resilience as an intermediary capability (Rezaei et al., 2022; Wilujeng et al., 2021). The partial mediation is theoretically coherent: entrepreneurial marketing generates resources and

routines that can be deployed directly to secure market advantage, but when these resources are embedded into resilient supply chain practices they are amplified, protected from disruption, and scaled, thus producing additional sustained advantages. For practitioners, the message is clear: entrepreneurial marketing delivers competitive benefits on its own, but pairing it with deliberate resilience investments multiplies and safeguards those benefits. A firm that both innovates in its product offerings and builds supplier relationships and visibility systems will see greater and more durable returns than a firm that does only one or the other.

Conclusion

This study examined the relationships between entrepreneurial marketing, supply chain resilience, and sustainable competitive advantage in Tanzanian food-processing SMEs. The findings demonstrate that entrepreneurial marketing positively influences both supply chain resilience and sustainable competitive advantage, that supply chain resilience positively influences sustainable competitive advantage, and that supply chain resilience partially mediates the relationship between entrepreneurial marketing and sustainable competitive advantage, with 36% of the total effect operating through the mediating pathway. The study makes several theoretical contributions to the literature. First, by integrating Resource-Based Theory and Dynamic Capabilities Theory, the study conceptualizes supply chain resilience as both a dynamic capability and an intangible strategic resource that satisfies VRIN conditions. This dual conceptualization bridges the gap between capability dynamics and resource heterogeneity in SME contexts, showing how capabilities developed through dynamic processes can become resources that yield sustained advantage. Second, the study advances Entrepreneurial Marketing Theory by demonstrating that entrepreneurial marketing operates through dual pathways to create competitive advantage: directly through market-facing mechanisms and indirectly by enabling resilient supply chain practices. The partial mediation finding reveals that entrepreneurial marketing and supply chain resilience are complementary capabilities that together produce greater and more durable competitive advantages than either alone. Third, the study contributes to the emerging market entrepreneurship literature by providing robust empirical evidence from Tanzanian food-processing SMEs, a context that has received limited attention in previous research.

The findings have several practical implications for SME managers. First, managers should invest deliberately in entrepreneurial marketing practices including customer intelligence, flexible resource deployments, and product or process innovativeness. These practices directly raise market performance and also empower supply chain responses. Second, managers should pair marketing investments with resilience measures including supplier diversification, digital visibility through information systems, collaborative planning with key partners, and flexible inventory policies. This combination both preserves the returns to marketing and converts marketing innovations into sustained advantage. For food-processing SMEs, this might mean investing in simple demand forecasting tools, building relationships with multiple suppliers of key ingredients, and developing contingency plans for production disruptions. Third, managers should adopt a capability view in planning, treating entrepreneurial marketing and supply chain resilience as complementary capabilities and budgeting accordingly rather than treating marketing and supply chain as separate cost centres.

For policymakers, the findings suggest that integrated support programs combining marketing capability building with supply chain resilience investments are likely to be more effective than

siloed interventions. The Small Industries Development Organization and the Ministry of Industry and Trade should consider expanding existing SME support programs to include training in entrepreneurial marketing dimensions such as customer intensity, proactiveness, and resource leveraging. The SME Development Policy could be revised to include explicit provisions for entrepreneurial marketing training within its enterprise development components. Public-private partnerships that facilitate SME access to digital platforms for demand visibility and to pooled procurement arrangements can help small firms reap resilience economies that are otherwise accessible only to larger firms.

The study has several limitations that should be considered when interpreting the findings. First, the cross-sectional design constrains causal claims; while the theoretical model implies directional relationships, longitudinal or panel designs would be needed to establish causality definitively and to understand the temporal evolution of entrepreneurial marketing and supply chain resilience capabilities. Second, the sample is sector-specific, focusing on food-processing SMEs in Tanzania. The food-processing sector has particular characteristics including perishable products, seasonal supply, and food safety requirements that may influence the relationships examined. Third, the study relied on self-reported perceptual measures, which may be subject to common method bias despite statistical tests suggesting this is not a major concern. Fourth, while several robustness checks were included, unobserved heterogeneity or omitted variables such as institutional quality, supply chain network centrality, and competitive intensity could influence effects. Fifth, the study focused on direct and mediation effects but did not examine potential moderators that might strengthen or weaken the relationships.

Future research should address these limitations in several ways. First, longitudinal or panel designs should be employed to establish causal ordering and track the development of entrepreneurial marketing and supply chain resilience capabilities over time. Second, replication across sectors and countries would test the generalizability of findings and identify boundary conditions. Studies in manufacturing, services, or other sectors would reveal whether the relationships hold more broadly. Third, future research should incorporate objective performance data where available, and consider multi-respondent designs to reduce common method bias concerns. Fourth, researchers should examine potential moderators such as environmental dynamism, competitive intensity, and institutional support to understand conditions under which the relationships are strengthened or weakened. Fifth, qualitative process studies could complement large-N work to reveal micro-foundations including managerial routines and decision heuristics that translate entrepreneurial marketing into supply chain resilience. Finally, future studies could explore additional mediators and outcomes, such as innovation performance, customer loyalty, or financial sustainability, to develop a more comprehensive understanding of how entrepreneurial marketing creates value in SMEs.

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