Heterogeneous effects of marketing strategies on sunflower oil processing small and medium enterprises performance in Tanzania: Mixed-methods evidence from Singida Region

Joseph Mshana[1]
Edwin Ngowi[2]
Allan Tumain[3]
Michael Kadigi[4]

[1]jsmshana5@gmail.com

[1,2,3.4]Sokoine University of Agriculture, Tanzania

Recommended Citation: Mshana, J., Ngowi, E., Tumain, A., & Kadigi, M. (2026). Heterogeneous effects of marketing strategies on sunflower oil processing small and medium enterprises performance in Tanzania: Mixed-methods evidence from Singida region. *African Quarterly Social Science Review, 3*(3), 880–896. https://doi.org/10.51867/AQSSR.3.3.70

ABSTRACT

Sunflower oil processing small and medium enterprises (SMEs) in Singida Region, Tanzania, face persistent performance challenges despite growing domestic demand and government support for import substitution, yet limited evidence exists on whether specific marketing strategies differentially affect enterprise outcomes. This study therefore examines the heterogeneous effects of seven marketing strategies on market share, processing capacity, and profitability among sunflower oil SMEs, drawing on Risk Aversion Theory and the Theory of Choice as the theoretical framework anchoring the study. Using a pragmatic explanatory sequential mixed-methods design, quantitative data were collected from 384 SME owners, managers, and employees via structured questionnaires, complemented by key informant interviews and focus group discussions. Regression analyses reveal that wholesale distribution significantly increases market share (β=0.9356, $p<0.05$), while promotional campaigns (β=1.4572, $p<0.01$) and trade fair participation (β=1.0556, $p<0.05$) substantially improve processing capacity. Notably, promotional campaigns (β=0.9752, $p<0.05$) and trade fairs (β=0.9839, $p<0.01$) are the only strategies demonstrating statistically significant positive effects on profitability. In contrast, direct sales, retail supply, online and social media marketing, and branding and packaging show no significant influence on any performance indicator, reflecting structural constraints such as limited digital infrastructure, weak certification systems (Tanzania Bureau of Standards [TBS] and Tanzania Food and Drugs Authority [TFDA]), and low bargaining power. Theoretically, this study extends risk aversion and choice frameworks by showing that SME owners rationally prefer low-risk, visible marketing channels (wholesale, trade fairs, promotions) over higher-risk differentiation strategies under resource scarcity. Empirically, it provides novel evidence on strategy-specific performance heterogeneity in a least-developed country context, challenging assumptions that digital or branding investments automatically yield returns. Practically, the findings recommend that SMEs reallocate limited budgets toward promotional campaigns and trade fairs, form cooperatives for collective wholesaling, and phase in branding and digital marketing only after foundational infrastructure and skills improve. Policymakers should subsidize trade fair participation, strengthen wholesale market linkages, and support capacity-building in low-cost promotional techniques. Without strategy-specific targeting, SMEs risk diluting resources on ineffective channels, perpetuating vulnerability to imported edible oils.

Keywords: Agro-Processing Competitiveness, Marketing Strategy Heterogeneity, Sunflower Oil Value Chain, SMEs Performance Indicators, Tanzania

I. INTRODUCTION

Sunflower oil processing represents a critical agro-industrial subsector in Tanzania, where the crop accounts for approximately 35% of all oilseeds produced nationally and supports the livelihoods of more than 350,000 smallholder farmers (Ariom *et al*., 2022). Tanzania is the largest sunflower producer in East Africa, contributing about 78% of the regional market share, and following strategic government interventions, the country became Africa's leading sunflower producer in 2023. The national edible oil demand stands at approximately 650,000 metric tonnes annually, yet domestic production meets only 260,000–300,000 tonnes, creating a substantial deficit that forces the country to rely on imports valued between USD 90 million and USD 250 million per year (Erasmus & Kauangal, 2025). This persistent import dependency undermines foreign exchange reserves and contradicts national food sovereignty objectives, positioning sunflower as a strategic import-substitution crop and a cornerstone of Tanzania's edible oil industrialisation agenda. In Singida Region, where a substantial share of households engage in sunflower cultivation and the region contributes 25–30% of national sunflower seed production (Isinika *et al*., 2021), small and medium-sized enterprises (SMEs) engaged in oil processing have emerged as critical actors in value addition, rural employment generation, and income improvement for farming communities (Mchopa, 2024).

Existing scholarly work on the sunflower value chain in Tanzania has predominantly concentrated on production-level constraints, technical efficiency, and upstream coordination challenges. Studies have documented inadequate machinery, inconsistent raw material supply, low technical efficiency among processors, and weak market access as persistent barriers to enterprise growth (Erasmus & Kauangal, 2025), including small capital, poor infrastructure, lack of training, and high electricity charges as key constraints affecting sunflower oil processing SMEs in Singida Municipality. Recent analyses of technical efficiency among small-scale processors in Singida Region confirmed that operational inefficiencies significantly limit output (Erasmus & Kauangal, 2025). Furthermore, value chain governance studies have revealed that market relationships dominate the sunflower sector, characterised by arm's length transactions, weak coordination between farmers and processors, seasonal supply gluts that depress farmgate prices, and notable mismatches between raw material availability and processing capacity (Mboya, 2024).

However, despite the recognised importance of marketing to SMEs competitiveness, limited empirical attention has been devoted to understanding how specific marketing strategies influence the performance of sunflower oil processing SMEs. Fintan and Mbura (2024) investigated entrepreneurial marketing dimensions, customer intensity, value creation, and proactiveness, among agro-processing SMEs in Dar es Salaam, finding that customer intensity and proactiveness significantly enhance performance. Nevertheless, this study was conducted in an urban commercial hub and did not focus on sunflower-specific value chains in semi-arid production zones. In neighbouring contexts, Ongeri (2021) demonstrated that wholesale distribution provided stable market access for edible oil SMEs in Kenya, while Kiggundu (2019) found that direct sales and retail supply were constrained by fragmented markets in Uganda's agro-processing sector. Similarly, Okonkwo (2022) showed that digital marketing improved customer reach and brand visibility among agro-processing SMEs in Nigeria, yet similar evidence from Tanzania remains scarce. More importantly, little empirical evidence exists regarding whether different marketing strategies produce varying effects across key performance indicators such as sales growth, profitability, market share, customer retention, and business sustainability (Mensah & Narh, 2025). The heterogeneous effects of marketing strategies on sunflower SME performance therefore remain poorly understood, especially in major sunflower-producing regions such as Singida.

This study is anchored on Risk Aversion Theory and Theory of Choice, which together provide a theoretical lens for explaining strategic marketing decisions under uncertainty. Risk Aversion Theory posits that firms and entrepreneurs tend to prefer strategic decisions that minimise uncertainty, financial losses, and operational instability while maximising security, predictability, and long-term business survival (Koch & Menkhoff, 2025). This theory assumes that SME owners are generally cautious decision-makers who avoid highly uncertain business practices and instead adopt strategies capable of reducing exposure to market volatility, competitive pressure, and unpredictable customer behaviour (Glowka *et al.*, 2024). The Theory of Choice explains that firms make rational decisions by evaluating available alternatives and selecting options perceived to generate the highest utility, profitability, and organisational advantage under existing opportunities and constraints (De Giorgi & Mahmoud, 2015).

While these theories have been applied to general SME decision-making in developed economies, their application to marketing strategy selection among agro-processing SMEs in sub-Saharan African contexts remains underexplored. Recent empirical literature demonstrates that SMEs increasingly rely on innovative and flexible marketing strategies to respond to rapidly changing business environments and growing market uncertainties (Hanaysha & Al Shaikh, 2024). Studies indicate that entrepreneurial marketing, market orientation, and marketing agility significantly improve SME competitiveness, customer loyalty, market performance, and organisational resilience under uncertain market conditions (Chooseta & Sukhabot, 2025; Hamzah, 2025). Rubio Andrés *et al*. (2024) observed that competitive strategy and innovation significantly enhance market performance among entrepreneurial SMEs operating within highly competitive environments. In the Tanzanian context, Mushi (2024) found that digital marketing strategies significantly enhance SME performance through improved customer outreach, sales growth, market expansion, and customer engagement. However, there is limited understanding of whether the risk-averse behaviour predicted by Risk Aversion Theory leads sunflower oil SMEs to favour particular marketing channels (such as direct sales or wholesale distribution) over higher-risk, higher-potential strategies (such as branding, digital marketing, or product differentiation). Furthermore, existing literature has not adequately examined how resource constraints, market uncertainty, and competitive pressures from imported edible oils interact with theoretical predictions of rational choice and risk aversion in shaping actual marketing strategy portfolios.

This study therefore seeks to fill the identified empirical and theoretical gaps by examining the heterogeneous effects of marketing strategies on multiple performance indicators among sunflower oil processing SMEs in Singida Region, Tanzania. Specifically, the study pursues three main objectives: (i) to identify the marketing strategies employed by sunflower oil processing SMEs in Singida Municipality and Mkalama District; (ii) to determine the effect of these marketing strategies on market share, processing capacity, and profitability; and (iii) to assess the marketing challenges confronting these enterprises and derive practical recommendations for enhancing competitiveness. Adopting a pragmatic explanatory sequential mixed-methods design (Creswell & Creswell, 2018), the study collected quantitative data from 384 SME owners, managers, and employees through structured questionnaires, complemented by key

informant interviews and focus group discussions. The central research question guiding this inquiry is: *Which marketing strategies produce statistically significant heterogeneous effects on market share, processing capacity, and profitability among sunflower oil processing SMEs in Singida Region, and how do risk aversion and rational choice explain these strategic selections?* By generating empirical evidence on strategy-specific performance heterogeneity, this study contributes to both entrepreneurial marketing theory and evidence-based policy design for agro-processing SME development in Tanzania. The findings are intended to inform enterprise-level decision-making and policy interventions aimed at enhancing business competitiveness and sustainability within the sunflower value chain (Fintan & Mbura, 2024).

1.2 Research Objectives

This study therefore seeks to fill the identified empirical and theoretical gaps by examining the heterogeneous effects of marketing strategies on multiple performance indicators among sunflower oil processing SMEs in Singida Region, Tanzania. Specifically, the study pursues three main objectives: (i) to identify the marketing strategies employed by sunflower oil processing SMEs in Singida Municipality and Mkalama District; (ii) to determine the effect of these marketing strategies on market share, processing capacity, and profitability; and (iii) to assess the marketing challenges confronting these enterprises and derive practical recommendations for enhancing competitiveness.

II. THEORETICAL REVIEW

2.1 Theoretical Review

2.1.1 Theoretical Foundation: Integrating Risk Aversion and Choice Theory

This study is anchored on two complementary theoretical perspectives, Risk Aversion Theory and Theory of Choice, which together provide a strong analytical lens for explaining the strategic marketing decisions of sunflower oil processing SMEs operating under conditions of uncertainty, resource scarcity, and intense market competition. Risk Aversion Theory, originally developed from the broader literature on decision-making under uncertainty (Kahneman & Tversky, 1979), posits that firms and entrepreneurs tend to prefer strategic decisions that minimise uncertainty, financial losses, and operational instability while maximising security, predictability, and long-term business survival. In the context of small and medium enterprises (SMEs), this theory assumes that owners are generally cautious decision-makers who avoid highly uncertain business practices and instead adopt strategies capable of reducing exposure to market volatility, competitive pressure, and unpredictable customer behaviour (Glowka et al., 2024). For sunflower oil processors in Singida Region, risk aversion manifests in the tendency to rely on familiar, low-cost marketing approaches such as direct sales to local consumers, supply to retail shops, and wholesale distribution to established buyers, rather than investing in uncertain ventures such as digital marketing, brand development, or product differentiation.

The Theory of Choice, also referred to as rational choice theory in organisational contexts, complements risk aversion by explaining how firms make rational decisions through systematic evaluation of available alternatives, selecting options perceived to generate the highest utility, profitability, and organisational advantage under existing opportunities and constraints (De Giorgi & Mahmoud, 2015). This theory assumes that decision-makers possess well-defined preferences, can assess the costs and benefits of alternative actions, and consistently choose the option that maximises expected value. In marketing strategy selection, Theory of Choice predicts that SME owners rationally evaluate alternatives such as product differentiation, pricing strategies, branding, customer relationship marketing, promotional campaigns, digital marketing, and market segmentation before selecting those perceived to offer greater efficiency, customer retention, profitability, and market competitiveness (Shepherd et al., 2015). For sunflower oil SMEs facing intense competition from cheaper imported edible oils, rational choice involves weighing the potential returns from different marketing channels against the associated costs, risks, and required capabilities.

The integration of these two theories is particularly relevant for understanding marketing decisions in agro-processing SMEs in developing country contexts. Recent empirical literature demonstrates that SMEs increasingly rely on innovative and flexible marketing strategies to respond to rapidly changing business environments and growing market uncertainties (Hanaysha & Al Shaikh, 2024). Studies indicate that entrepreneurship improves marketing, market orientation, and marketing agility significantly improve SME competitiveness, customer loyalty, market performance, and organisational resilience under uncertain market conditions (Chooseta & Sukhabot, 2025; Hamzah, 2025). Rubio Andrés et al. (2024) observed that competitive strategy and innovation significantly enhance market performance among entrepreneurial SMEs operating within highly competitive environments. These findings suggest that SMEs with stronger marketing capabilities and adaptive strategic orientations are more capable of responding effectively to environmental turbulence and sustaining long-term competitive advantage.

In the Tanzanian context, Fintan and Mbura (2024) found that customer intensity and proactiveness, dimensions of entrepreneurial marketing, significantly enhance agro-processing SMEs performance, while Mushi (2024) demonstrated that digital marketing strategies significantly improve SME performance through enhanced customer

outreach, sales growth, market expansion, and customer engagement. Recent studies further reveal that marketing capabilities, digital transformation, and strategic adaptation strengthen SME resilience, flexibility, and long-term sustainability in uncertain business environments (Hokmabadi et al., 2024). However, these studies have not explicitly examined how risk aversion interacts with rational choice to shape actual marketing strategy portfolios among sunflower oil SMEs operating in semi-arid production zones characterised by seasonal raw material availability, weak infrastructure, and intense import competition.

The joint application of Risk Aversion Theory and Theory of Choice provides a comprehensive explanation for the marketing behaviour observed among sunflower oil processing SMEs in Singida Region. Risk aversion explains why these enterprises predominantly adopt low-cost, low-uncertainty strategies such as direct sales and wholesale distribution, avoiding potentially higher-return but riskier strategies such as branding, digital marketing, and product differentiation. Rational choice theory further explains that within the set of low-risk alternatives, SMEs select specific strategies based on perceived utility, profitability, and competitive advantage under existing resource constraints and market conditions. Together, these theories predict that marketing strategies will have heterogeneous effects on different performance indicators, some strategies may enhance market share but not profitability, while others may improve processing capacity without affecting market share, depending on how well each strategy aligns with risk preferences and rational calculations of expected returns.

III. METHODOLOGY

3.1 The study area

This study was conducted in Singida Region, located in the central semi-arid zone of Tanzania, approximately 700 kilometres northwest of Dar es Salaam. Singida Region is administratively divided into six districts, with the study specifically focusing on Singida Municipality (the urban administrative and commercial hub) and Mkalama District (a rural production catchment). As illustrated in Figure 1, these two sites were strategically selected to capture the spatial heterogeneity of sunflower oil processing SME performance across different market access conditions, infrastructure endowments, and livelihood contexts.

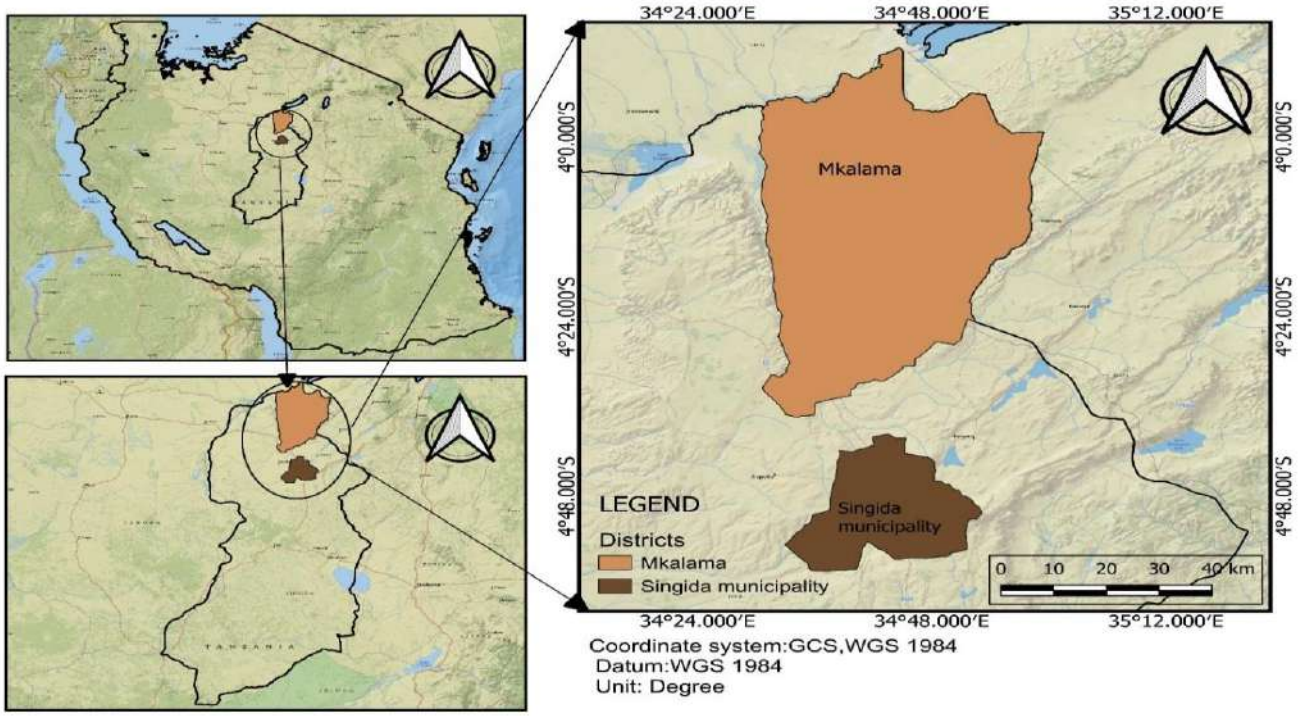

Figure 1
Map of Singida Region Showing Study Sites (Singida Municipality and Mkalama District)

Singida Region is one of Tanzania's premier sunflower-producing zones, contributing an estimated 25–30% of national sunflower seed production annually (Isinika *et al*., 2021). The region's agricultural economy is heavily oriented toward sunflower cultivation, with a substantial share of rural households engaged in either production or primary processing of sunflower. The region's significance to the national sunflower subsector has been further amplified

following Tanzania's emergence as Africa's leading sunflower producer in 2023, a position achieved through strategic government interventions in input supply, extension services, and market linkages.

The region's semi-arid climate, mean annual rainfall of 500–800 mm, prolonged dry seasons of 6–7 months, and temperatures ranging from 15°C to 35°C, creates sustainability challenges that directly affect sunflower value chain dynamics (Ariom *et al*., 2022). These climatic conditions influence raw material availability through seasonal production patterns, exacerbate post-harvest storage losses, affect processing schedules due to water scarcity, and contribute to price volatility as supply fluctuates between harvest and lean seasons (Erasmus & Kauangal, 2025). For sunflower oil processing SMEs, these factors translate into operational uncertainties that shape marketing strategy decisions, as processing capacity utilisation and market supply consistency vary significantly across seasons.

Selecting both Singida Municipality (urban) and Mkalama District (rural) was methodologically justified on three grounds. First, this dual-site selection captures spatial heterogeneity: Singida Municipality hosts 45 registered SMEs benefiting from paved roads, grid electricity, direct wholesaler access, and proximity to financial services, while Mkalama District hosts 28 registered SMEs operating under unpaved roads, unreliable electricity, and limited market access (Mchopa, 2024). Second, it enables comparative analysis of marketing adaptation, urban SMEs can experiment with branding and promotions, whereas rural SMEs rely on direct sales to local consumers (Fintan & Mbura, 2024). Third, it strengthens external validity, as Singida's sunflower sector exhibits characteristics common to semi-arid agricultural zones across sub-Saharan Africa. Empirical grounding from Isinika *et al*. (2021), Sintoo (2015), and Bank of Tanzania (2017) data on edible oil imports (exceeding USD 250 million annually) collectively justifies Singida Region as a policy-relevant site for investigating heterogeneous effects of marketing strategies on SME performance indicators.

3.2 Philosophical Underpinning and Research Design

This study was grounded in the pragmatic research paradigm, which prioritises practical consequences and real-world problem-solving over abstract philosophical debates about the nature of knowledge (Creswell & Creswell, 2018). Pragmatism is particularly suitable for research on SME marketing strategies and performance because it recognises that research questions drive methodological choices rather than predetermined commitments to either quantitative or qualitative approaches (Morgan, 2014). Given the study's objective to examine heterogeneous effects of marketing strategies on multiple performance indicators while also understanding the contextual explanations for why certain strategies produce stronger effects than others, pragmatism provides the philosophical justification for adopting a mixed-methods design. This paradigm aligns with the study's core assumption that marketing effectiveness is context-dependent and that statistical relationships must be interpreted alongside qualitative insights from SME owners, managers, and key informants (Tashakkori et al., 2021).

The study employed an explanatory sequential mixed-methods design (QUAN → QUAL), a two-phase approach where quantitative data collection and analysis are followed by qualitative data collection that explains and deepens the quantitative results (Creswell & Creswell, 2018). This design was selected for four strategic reasons. First, it enables the establishment of statistical relationships between specific marketing strategies and performance indicators through regression analysis. Second, it allows qualitative findings to explain why certain strategies, such as wholesale distribution, promotional campaigns, and trade fairs, produce significant effects while others do not. Third, the sequential nature ensures that qualitative inquiry is purposively directed by quantitative results, enhancing the relevance and depth of explanations. Fourth, this design addresses the complexity of the research problem, which requires both statistical generalisation across 384 respondents and contextual understanding of marketing decisions within Singida Region's specific institutional and infrastructural environment.

The cross-sectional nature of data collection provides a snapshot of SME marketing dynamics during the 2025–2026 production and marketing season, controlling for seasonal variations by conducting all surveys within a three-month period (January to March 2026) when sunflower oil processing and marketing activities are at their peak (Erasmus & Kauangal, 2025).

3.3 Target Population and Sampling Strategy

The target population comprised all sunflower oil processing SMEs operating in Singida Municipality and Mkalama District, including owners, managers, employees, and community members engaged in sunflower value chain activities. Due to the absence of a comprehensive and up-to-date sampling frame for sunflower SMEs in the region, a common challenge in informal SME research in sub-Saharan Africa (Fintan & Mbura, 2024), the study employed a stratified multi-stage sampling approach to ensure representativeness across stakeholder groups.

Stage 1: Stratification by District. The study area was stratified into two strata: Singida Municipality (urban stratum) and Mkalama District (rural stratum). This stratification ensured proportional representation of SMEs from both urban and rural contexts, enabling comparative analysis of marketing strategy effectiveness across different market environments.

Stage 2: Stratification by Stakeholder Category. Within each district, the sample was stratified into three stakeholder categories: SME owners/managers, SME employees, and community members (smallholder farmers supplying sunflower seeds and local consumers of sunflower oil). This stratification enabled the study to capture multiple perspectives on marketing strategy effectiveness and performance outcomes.

Stage 3: Purposive Sampling for Qualitative Component. Key informants were purposively selected based on their expertise and experience in sunflower value chain activities, including district agricultural officers, Small Industries Development Organization (SIDO) officers, Tanzania Bureau of Standards (TBS) representatives, cooperative leaders, and financial institution officers. Focus group discussion participants were purposively recruited to ensure diversity in age, gender, and enterprise size (Patton, 2015).

3.4 Sample Size

Due to the absence of precise demographic data on the total population of sunflower oil processing SMEs in Singida Region, the sample size for the quantitative survey was calculated using Cochran's (1977) formula for unknown or infinite populations. The formula calculation proceeds as follows:

$$n = Z^2 * p * (1-p) / E^2$$

$$n = \frac{Z^2 * p * (1-p)}{E^2} = \frac{1.962 * 0.5(1-0.5)}{(0.05)^2} = \frac{3.8416 * 0.25}{0.0025} = 384$$

Where, n is the sample size, Z is the Z-score level of confidence (95% i.e. 1.96), p = is the estimated proportion of the population (5% i.e. ±5) and E is the margin of error (0.05). Table 1 shows the distribution of the 384 respondents across stakeholder categories and study sites.

Table 1

Distribution of Sample Respondents

Stakeholder Category	Singida Municipality	Mkalama District	Total	Percentage (%)
SME owners/managers	77	77	154	40.1
SME employees	77	77	154	40.1
Community members	38	38	76	19.8
Total	**192**	**192**	**384**	**100**

Source: Field Survey Design (2026)

For the qualitative component, 20 key informants were purposively selected (10 from Singida Municipality and 10 from Mkalama District), and 32 participants were recruited for four focus group discussions (two FGDs in each district, with 8 participants per FGD). This sample size for qualitative inquiry aligns with established guidelines for mixed-methods research, where qualitative samples are typically smaller but information-rich (Guest *et al.*, 2006; Hennink & Kaiser, 2022).

3.5 Data Collection Instruments

The study employed three primary data collection instruments to ensure methodological triangulation and data completeness. A structured questionnaire was developed to collect quantitative data on SME socio-economic characteristics, marketing strategies employed, performance indicators (market share, processing capacity, profitability), and marketing challenges. The questionnaire was organised into five sections: (1) demographic and enterprise characteristics, (2) marketing strategy adoption (measured using a five-point Likert scale from 1 = never used to 5 = always used), (3) performance indicators (market share measured as percentage of local market, processing capacity as litres per month, profitability as gross and net profit margins), (4) marketing challenges, and (5) institutional support accessed. The questionnaire was pilot-tested with 30 SMEs (15 in each district) to assess clarity, relevance, and internal consistency. Cronbach's alpha coefficients for the marketing strategies scale ($\alpha = 0.82$) and performance indicators scale ($\alpha = 0.79$) exceeded the acceptable threshold of 0.70, indicating good internal consistency (Nunnally & Bernstein, 1994). Table 2 summarises the measurement of key variables in the structured questionnaire.

Table 2

Measurement of Key Variables in Structured Questionnaire

Variable Category	Variable	Measurement Approach	Scale/Unit
Independent	Marketing strategies	Likert scale (1-5) for 7 strategies	Ordinal (categorical)
Dependent	Market share	Estimated percentage of local market share	Ratio (0-100%)
Dependent	Processing capacity	Litres of oil processed per month	Ratio (continuous)
Dependent	Profitability	Gross profit margin (%), Net profit margin (%)	Ratio (continuous)
Moderating	Institutional resources	Access to finance, TBS/TFDA certification	Binary (yes/no)
Moderating	Policy support	Government programme participation	Binary (yes/no)
Control	Enterprise age	Years since establishment	Ratio (continuous)
Control	Enterprise size	Number of permanent employees	Ratio (continuous)

Source: Developed from Fintan and Mbura (2024) and Mensah and Narh (2025)

A semi-structured interview guide was developed to collect qualitative data from district agricultural officers, SIDO officers, TBS representatives, cooperative leaders, and financial institution officers. The guide explored topics including: (1) perceptions of marketing strategy effectiveness among sunflower SMEs, (2) institutional support available for SME marketing, (3) constraints limiting marketing strategy adoption, and (4) recommendations for policy interventions. Each key informant interview lasted 45–60 minutes and was conducted in Kiswahili (the national language of Tanzania) to ensure full comprehension and authentic expression (Rubin & Rubin, 2012).

A separate focus group discussion guide was developed for community members, exploring: (1) consumer preferences for sunflower oil products, (2) awareness of locally processed sunflower oil brands, (3) willingness to pay for branded or certified sunflower oil, and (4) perceptions of marketing channels used by local SMEs. Each FGD lasted 60–90 minutes, was facilitated by a trained moderator, and was audio-recorded with participants' informed consent (Krueger & Casey, 2015).

3.6 Data Collection Procedures

Data collection was conducted over a three-month period (January to March 2026), coinciding with the peak sunflower processing and marketing season following the primary harvest. Quantitative data collection proceeded as follows: Research assistants identified eligible SMEs through snowball sampling starting from registered SME lists obtained from SIDO and district trade offices. After obtaining informed consent, the structured questionnaire was administered in Kiswahili, with each interview lasting 30–45 minutes. Completed questionnaires were checked for completeness at the end of each day, and any missing or inconsistent responses were followed up within 48 hours.

Qualitative data collection followed the completion of quantitative data analysis. Key informant interviews were scheduled at participants' workplaces and conducted in private settings to encourage candid responses. Focus group discussions were held in central community locations (e.g., village meeting halls, school premises) to facilitate participation. All qualitative interviews and FGDs were audio-recorded, transcribed verbatim in Kiswahili, and subsequently translated into English for analysis by the research team (Braun & Clarke, 2022).

3.7 Data Analysis Methods

Quantitative data from structured questionnaires were entered into Microsoft Excel, cleaned for errors and inconsistencies, and exported to Stata version 17.0 for statistical analysis. The analysis proceeded in three stages. First, descriptive statistics (frequencies, percentages, means, standard deviations) were computed to characterise the socio-economic and financial profile of SMEs and describe the distribution of marketing strategies employed. Second, bivariate analysis using chi-square tests and independent t-tests examined associations between categorical variables and performance indicators. Third, multiple regression analysis was conducted to estimate the effect of specific marketing strategies on three performance indicators: market share, processing capacity, and profitability. Table 3 specifies the regression models estimated for each performance indicator.

Table 3

Regression Model Specifications

Model	Dependent Variable	Independent Variables	Estimation Method	Justification
Model 1	Market share (%)	7 marketing strategies + control variables	Ordinary Least Squares (OLS)	Continuous dependent variable (0-100%)
Model 2	Processing capacity (litres/month)	7 marketing strategies + control variables	OLS with robust standard errors	Continuous dependent variable, heteroscedasticity expected
Model 3	Profit margin (%)	7 marketing strategies + control variables	OLS	Continuous dependent variable

Source: Adapted from Wooldridge (2020)

The general regression equation for all models is specified as:

$$Y_i = \beta_0 + \beta_1 DS_i + \beta_2 RS_i + \beta_3 WD_i + \beta_4 SM_i + \beta_5 BP_i + \beta_6 PC_i + \beta_7 TF_i + \gamma X_i + \varepsilon_i$$

Where:

Y_i = Performance indicator for SME i (market share, processing capacity, or profit margin)

β_0 = Intercept (constant)

β_1 to β_7 = Coefficients for marketing strategies (DS = direct sales, RS = retail supply, WD = wholesale distribution, SM = social media, BP = branding/packaging, PC = promotional campaigns, TF = trade fairs)

X_i = Vector of control variables (enterprise age, enterprise size, district location)

γ = Coefficients for control variables

ε_i = Error term

All regression models were tested for violations of classical assumptions, including multicollinearity (variance inflation factor < 5), heteroscedasticity (Breusch-Pagan test), and normality of residuals (Shapiro-Wilk test). Robust standard errors were employed in Model 2 to address detected heteroscedasticity (Wooldridge, 2020).

Qualitative data from key informant interviews and focus group discussions were analysed using thematic analysis following Braun and Clarke's (2022) six-phase framework: (1) familiarisation with the data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) writing the report. Coding was conducted manually using a hybrid approach, deductive codes derived from the conceptual framework (e.g., risk aversion, rational choice, marketing strategy types) and inductive codes emerging from the data (e.g., import competition, trust in local products, certification costs). Thematic saturation was achieved after analysing 15 key informant interviews and 3 focus group discussions, with the remaining 5 KIIs and 1 FGD confirming existing themes without generating new codes (Guest *et al*., 2006).

Integration of quantitative and qualitative occurred at three levels. First, during data collection, quantitative results on significant and non-significant marketing strategies directly informed the development of qualitative inquiry protocols. Second, during analysis, a joint display matrix was constructed to compare quantitative regression coefficients with qualitative themes for each marketing strategy and performance indicator. Third, during interpretation, meta-inferences were drawn that synthesised statistical relationships with explanatory qualitative insights, producing a comprehensive understanding of heterogeneous marketing strategy effects (Fetters et al., 2013).

3.8 Ethical Considerations

The study adhered to established ethical guidelines for research involving human subjects. Ethical approval was obtained from the Sokoine University of Agriculture Research Ethics Committee. Permission to conduct research in Singida Region was secured from the Singida Regional Administrative Secretary, Singida Municipal Director, and Mkalama District Executive Director. All participants provided written informed consent after receiving a detailed explanation of the study's purpose, procedures, risks, and benefits. Participants were assured of confidentiality, anonymity, and the right to withdraw at any time without penalty. Data were stored on password-protected computers, and personal identifiers were removed during data cleaning to ensure anonymity. No incentives were offered for participation, but refreshments were provided during focus group discussions as a gesture of appreciation (Israel & Hay, 2006).

IV. FINDINGS & DISCUSSION

4.1 Socio-Economic and Financial Characteristics of Sunflower Oil SMEs

Table 4 presents the socio-economic and financial profile of sunflower oil processing SMEs in Singida Region. The age distribution shows that the majority of entrepreneurs are concentrated in the 41–50 years age bracket (35.3%), followed by those aged 31–40 years (29.0%). This concentration of middle-aged participants suggests that sunflower oil processing is largely driven by individuals with established family and social responsibilities, which is consistent with the high proportion of married respondents (85.5%). The sector remains heavily male-dominated (83.7%), with women representing only 16.3% of SME owners and managers. This gender disparity reflects broader patterns observed in Tanzanian agro-processing SMEs, where women face greater barriers to accessing capital, land, and business development services (Mchopa, 2024). From a theoretical perspective, Risk Aversion Theory would predict that middle-aged, married individuals with family obligations exhibit stronger risk-averse behaviour in marketing strategy selection, potentially explaining the predominance of low-risk, traditional marketing approaches documented in this study (Koch & Menkhoff, 2025).

Table4

Socio-Economic and Financial Characteristics of Sunflower Oil SMEs in Singida Region

Variable/ Categories	Percentage (%)
Age (in Years)	
18–30	12.2
31–40	29.0
41–50	35.3
51–60	13.6
61+	10.0
Sex	
Male	83.7
Female	16.3
Marital Status	
Single	14.5
Married	85.5
Year of Establishment	
2008–2012	Low counts (<5%)
2013–2015	Sharp increase (approx. 20–25%)
2016–2022	Consistently high (peaking around 2022 at ~30%)
Debt-to-Equity Ratio	
0–0.5	24.4
0.6–1.0	69.2
1.1–2.0	5.9
Above 2.0	0.5
Approximate Profit Margin Last Month	
Less than 30% (Low)	21.7
30–60% (Medium)	48.9
60–90% (High)	18.6
90–120% (Very High)	10.9
Estimated Gross Profit Last Month	
Less than TZS 5 000 000	22.6
TZS 5 000 001–10 000 000	48.0
TZS 10 000 001–15 000 000	18.6
Above TZS 15 000 000	10.9
Net Profit After All Expenses Last Month	
Less than TZS 4 000 000	23.1
TZS 4 000 001–8 000 000	47.1
TZS 8 000 001–12 000 000	19.0
Above TZS 12 000 000	10.9

The year of establishment data reveals a sharp increase in SMEs formation between 2014 and 2022, peaking around 2022. This pattern coincides with the period when the Tanzanian government intensified its import substitution agenda for edible oils, creating policy incentives for domestic processing. The financial structure of these enterprises reveals that most operate with a debt-to-equity ratio between 0.6 and 1.0 (69.2%), indicating moderate reliance on borrowed funds. Only 0.5% reported ratios above 2.0, suggesting that few enterprises are highly leveraged. This cautious borrowing approach reflects limited access to affordable formal credit and the tendency of SMEs to rely on personal savings or informal financing arrangements, a finding consistent with studies of Tanzanian agro-processing SMEs (Fintan & Mbura, 2024). From a Theory of Choice perspective, this financial behaviour demonstrates rational utility maximisation under resource constraints. SMEs owners weigh the expected returns from borrowed capital against the risks of over-indebtedness, ultimately selecting a conservative debt structure that prioritises business survival over aggressive expansion (De Giorgi & Mahmoud, 2015).

Profitability indicators further illustrate the financial position of these enterprises. Nearly half of SMEs reported profit margins between 30% and 60% (48.9%), while only 10.9% achieved margins above 90%. Gross profit distribution shows that 48.0% of SMEs earned between TZS 5–10 million monthly, while net profit after expenses was highest in the TZS 4–8 million range (47.1%). These figures demonstrate that most SMEs generate moderate profits but remain constrained by operational costs and competition from imported edible oils. The predominance of medium-level profitability indicates that while SMEs are viable, they face challenges in scaling up and achieving higher margins. This financial outcome emphasises the need for strengthening marketing strategies, improving certification and packaging,

and enhancing infrastructure to support greater profitability and competitiveness in the sunflower oil sector, consistent with findings from Kenya's edible oil sector (Ongeri, 2021).

4.2 Marketing Strategies Employed by Sunflower Oil SMEs

Figure 3 presents the adoption rates of various marketing strategies among sunflower oil SMEs in Singida Region. The results show that SMEs are adopting a diverse set of marketing strategies, with particularly high reliance on direct sales to consumers (99.1%) and supply to retail shops (97.7%). Moderate uptake is observed in branding and packaging (68.3%), online and social media marketing (67.4%), trade fairs and exhibitions (70.1%), and promotional campaigns and discounts (64.7%), while wholesale distribution (82.4%) remains a dominant channel.

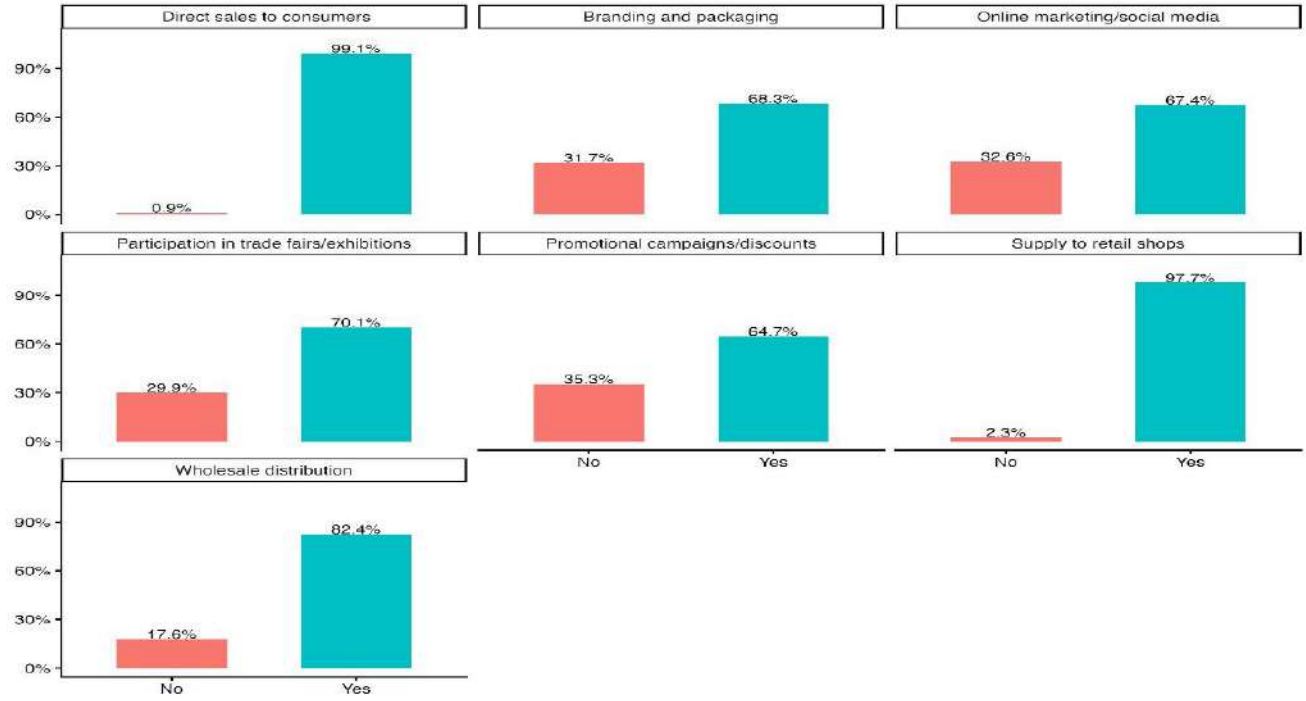

Figure 3
Marketing Strategies Adopted by Sunflower Oil SMEs
Source: Field Survey Data (2026)

Despite this broad engagement, the regression analyses presented in Tables 5, 6, and 7 revealed that only wholesale distribution (market share), promotional campaigns and trade fairs (processing capacity and profitability) exert statistically significant effects. This suggests that while SMEs are experimenting with multiple approaches, not all strategies translate into measurable performance outcomes. The high adoption of direct sales (99.1%) and retail supply (97.7%) may reflect necessity rather than strategic choice, these channels require no upfront investment, no certification, and no formal business relationships, consistent with Risk Aversion Theory's prediction that SMEs default to lowest-risk options (Koch & Menkhoff, 2025).

Comparative evidence shows that in Nigeria, digital marketing improved customer reach and brand visibility among agro-processing SMEs (Okonkwo, 2022). In Tanzania, limited internet penetration (only 32% of rural Tanzanians have regular internet access), low digital literacy among SMEs owners, and lack of certification constrain the effectiveness of branding and digital marketing. These findings highlight the need for targeted interventions in digital marketing, branding, certification, and cooperative wholesaling to strengthen competitiveness in the sunflower oil value chain.

4.3 Frequency of Marketing Strategies

Figure 4 presents the frequency with which sunflower oil SMEs review and update their marketing strategies. The survey results show that 70.9% of SMEs review their marketing strategies annually, 15.5% quarterly, and 13.6% never update them. This indicates that while most SMEs recognise the importance of periodic review, the long intervals between updates may limit responsiveness to dynamic market conditions, especially given intense competition from imported edible oils.

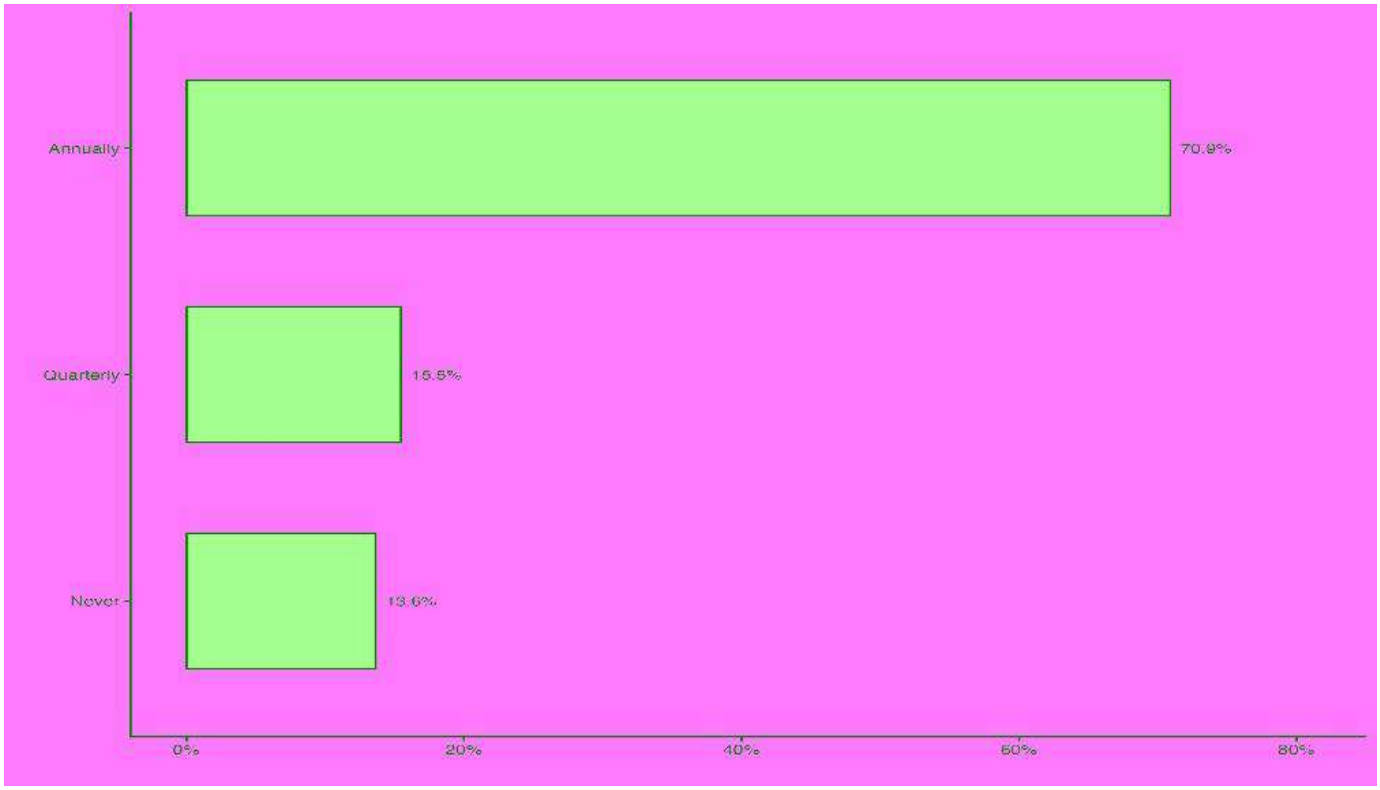

Figure 4
Frequency of Marketing Strategy Review
Source: Field Survey Data (2026)

Comparative evidence from India demonstrates that SMEs that frequently update promotional schemes and branding practices achieve higher profitability and market resilience (Pramod *et al.*, 2021). Tanzanian SMEs often lack resources and institutional support to conduct frequent reviews, which explains the predominance of annual updates rather than quarterly adjustments. From a theoretical perspective, the low frequency of strategy updates reflects both risk aversion and rational choice under constraints. Risk-averse SME owners prefer stable, predictable marketing approaches rather than constantly adapting to market fluctuations, which they perceive as introducing uncertainty (Glowka *et al.*, 2024). Rational choice explains that given the high transaction costs of gathering market intelligence and the limited returns from frequent adjustments in the current market environment, annual reviews represent a utility-maximising equilibrium (Shepherd et al., 2015). One key informant explained:

> *"We review prices when the harvest comes in, once a year. Why change more often? Our customers are the same people, and imported oil prices don't change that much. If it works, do not fix it"* (KII 8, SMEs owner, 15-02-2026 Singida Municipality).

This quotation illustrates the logic of inertia under conditions where market conditions are perceived as stable and the marginal benefit of more frequent adaptation does not justify the marginal cost. However, given the rapid changes in edible oil markets and increasing import competition, the 13.6% of SMEs that never update their strategies represent a vulnerable segment requiring targeted capacity-building interventions.

4.4 Effect of Marketing Strategies on Market Share

Table 4 presents the regression results examining the effect of seven marketing strategies on market share among sunflower oil SMEs. The results demonstrate that wholesale distribution is the only marketing strategy with a statistically significant positive effect on market share ($\beta = 0.9356$, $p < 0.05$). This finding is consistent with evidence from Kenya's edible oil sector, where wholesalers provided stable market access for SMEs by aggregating demand from numerous retailers and reducing transaction costs (Ongeri, 2021). Similarly, in Uganda's agro-processing sector, Kiggundu (2019) found that direct sales and retail supply were constrained by fragmented markets, making wholesale distribution a more reliable channel for achieving market penetration.

Table 4

Regression on the Effect of Marketing Strategies on Market Share

Variable	Coefficient	Std._Error	z_value	p_value	Significance
(Intercept)	-1.2357	1.6008	-0.772	0.44	ns
Direct sales	0.3824	1.5251	0.251	0.802	ns
Supply to retail shop	-0.5003	1.0326	-0.484	0.628	ns
Wholesale distribution	0.9356	0.3883	2.409	0.016	*
Online / social media	0.6258	0.4602	1.36	0.174	ns
Branding / packaging	-0.1062	0.484	-0.219	0.826	ns
Promotional campaign	0.235	0.3699	0.635	0.525	ns
Trade fair	0.3278	0.3345	0.98	0.327	ns

*Note: *p < 0.05; ns = not significant; dependent variable = market share (%)**

Source: Author's calculations from survey data (2026)

Conversely, in South Africa and developed economies, retail supply and branding play a stronger role due to organised distribution systems and consumer demand for differentiated products (Gerschewski et al., 2020). These variations highlight the structural and resource limitations faced by SMEs in Tanzania, underscoring the need for targeted interventions to strengthen wholesale networks while promoting modern marketing practices to enhance product differentiation and resilience against imported edible oils. The non-significance of branding and packaging (β = -0.1062, p = 0.826) and online/social media marketing (β = 0.6258, p = 0.174) reflects infrastructural constraints, limited internet penetration, low digital literacy among SMEs owners, and high packaging costs relative to scale, that prevent these strategies from translating into measurable market share gains (Mensah & Narh, 2025).

From a theoretical perspective, these findings align with Risk Aversion Theory, which predicts that SMEs owners prefer strategies that minimise uncertainty and provide predictable outcomes. Wholesale distribution, by establishing guaranteed off-take arrangements with established buyers, reduces the uncertainty associated with direct sales to fragmented retail markets (Glowka et al., 2024). The Theory of Choice further explains that within the set of available marketing alternatives, SMEs owners rationally select wholesale distribution because it generates the highest expected utility given their resource constraints: wholesalers absorb transaction costs, provide immediate payment (often cash on delivery), and reduce the need for investment in branding, packaging, or digital infrastructure (Shepherd et al., 2015).

4.5 Effect of Marketing Strategies on Processing Capacity

Table 5 presents the regression results examining the effect of marketing strategies on processing capacity, measured as litres of sunflower oil processed per month. The results reveal that promotional campaigns (β = 1.4572, p < 0.01) and trade fairs (β = 1.0556, p < 0.05) exert statistically significant positive effects on processing capacity. Wholesale distribution shows a marginal effect (β = 0.7622, p < 0.10), while direct sales, retail supply, online/social media, branding, and packaging remain insignificant.

Table 5

Regression on the effect of marketing strategies on processing capacity

Variable	Coefficient	Std._Error	z_value	p_value	Significance
(Intercept)	-2.7672	1.8349	-1.508	0.13153	ns
Direct sales	-0.7202	1.7099	-0.421	0.67364	ns
Supply to retail shop	-0.8709	1.2587	-0.692	0.489	ns
Wholesale distribution	0.7622	0.4292	1.776	0.07579	.
Online / social media	0.7513	0.5466	1.374	0.16931	ns
Branding / packaging	0.5721	0.5836	0.98	0.327	ns
Promotional campaign	1.4572	0.4796	3.039	0.00238	**
Trade fair	1.0556	0.4499	2.346	0.01897	*

*Note: **p < 0.01; *p < 0.05; .p < 0.10; ns = not significant; dependent variable = processing capacity (litres/month)**

Source: Author's calculations from survey data (2026)

These findings are consistent with studies in India, where promotional schemes empowered MSMEs to expand operations by stimulating demand and enabling higher capacity utilisation (Pramod *et al*., 2021). In Australia and New Zealand, trade shows enhanced SMEs operational performance through networking opportunities, market intelligence gathering, and direct buyer connections (Gerschewski et al., 2020). Similarly, evidence from Kenya's edible oil sector highlights wholesale distribution as stabilising but less dynamic in driving capacity expansion compared to promotional

engagement (Ongeri, 2021). The similarities across contexts reflect the universal role of promotional campaigns and trade fairs in stimulating production scaling, while variations arise from differences in market structures, resource availability, and levels of digital adoption. The qualitative data from key informant interviews provide explanatory depth for these quantitative findings. One SIDO officer explained:

> *"When SMEs run promotions, like discounts for bulk purchases or free samples at community events, they see an immediate spike in customers. This forces them to operate at full capacity for days or weeks. The problem is that most cannot sustain that level without better raw material storage"* (KII 5, SIDO officer, 16-02-2026 Singida Municipality).

Similarly, a cooperative leader noted:

> *"Trade fairs are expensive to attend, but those who go always come back with orders. The Nane Nane exhibition last year connected three of our members to buyers from Dodoma and Arusha. They had to increase processing hours to meet the contracts"* (KII 12, cooperative leader, 19-02-2026 Mkalama District).

These qualitative insights suggest that promotional campaigns and trade fairs operate through distinct mechanisms. Promotional campaigns generate immediate demand spikes that temporarily increase capacity utilisation, while trade fairs create sustained demand through buyer networks and reputational effects that support longer-term capacity expansion. From a Risk Aversion Theory perspective, promotional campaigns represent a lower-risk strategy than trade fairs because they can be implemented incrementally with minimal upfront investment, whereas trade fairs require significant participation fees, travel costs, and product samples (Koch & Menkhoff, 2025). The fact that both strategies show significant effects suggests that SMEs owners, despite their risk-averse tendencies, are willing to invest in these marketing activities when they perceive a reasonable probability of positive returns, consistent with rational choice predictions that risk aversion is relative, not absolute (De Giorgi & Mahmoud, 2015).

4.5 Effect of Marketing Strategies on Profitability

Table 6 presents the regression results examining the effect of marketing strategies on profitability, measured as net profit margin percentage. The results reveal that promotional campaigns ($\beta = 0.9752$, $p < 0.05$) and trade fairs ($\beta = 0.9839$, $p < 0.01$) exert statistically significant positive effects on profitability. These findings are consistent with studies in India, where promotional schemes boosted SMEs profitability through increased sales volume and customer loyalty (Pramod *et al*., 2021), and in Australia and New Zealand, where trade shows enhanced SMEs performance through networking and direct sales (Gerschewski et al., 2020). Similarly, evidence from Kenya's agro-processing sector highlights trade fairs as effective in improving SME profitability by reducing intermediary margins and enabling direct buyer relationships (Ongeri, 2021).

Table 6

Regression on the effect of marketing strategies on profit

Variable	Coefficient	Std._Error	z_value	p_value	Significance
(Intercept)	-0.7796	1.1287	-0.691	0.48975	ns
Supply to retail shop	1.0255	1.0253	1	0.31722	ns
Wholesale distribution	-0.2554	0.5403	-0.473	0.63636	ns
Online / social media	0.3836	0.5645	0.68	0.49677	ns
Branding / packaging	-0.3329	0.615	-0.541	0.58828	ns
Promotional campaign	0.9752	0.4433	2.2	0.02783	*
Trade fair	0.9839	0.3785	2.6	0.00933	**

Note: **p < 0.01; *p < 0.05; ns = not significant; dependent variable = net profit margin (%)

Source: Author's calculations from survey data (2026)

Conversely, supply to retail shops ($\beta = 1.0255$, $p = 0.317$), wholesale distribution ($\beta = -0.2554$, $p = 0.636$), online/social media ($\beta = 0.3836$, $p = 0.497$), and branding/packaging ($\beta = -0.3329$, $p = 0.588$) did not exhibit significant effects on profitability. The non-significance of retail and wholesale channels likely reflects the bargaining power imbalance between SMEs and larger buyers, who can demand lower prices and extended credit terms, squeezing SME profit margins (Mboya, 2024). The non-significance of branding and packaging reflects cost constraints, one key informant explained:

> *"We know that branded oil could sell for more, but TBS certification costs TZS 1.5 million, and proper plastic bottles with labels cost twice as much as used water bottles. Our customers know our oil is good because we have been selling to them for years—they don't need a label"* (KII 3, SME owner, 19-02-2026, Mkalama District).

This quotation illustrates a rational choice under resource constraints: rather than investing in costly certification and packaging that may not yield immediate returns, SME owners prioritise relationship-based marketing with existing customers who trust their product based on personal experience rather than brand signals (Fintan & Mbura, 2024). The significant positive effects of promotional campaigns and trade fairs on profitability can be explained through both theoretical lenses. Risk Aversion Theory suggests that these strategies, while requiring upfront investment, offer predictable returns through mechanisms that SME owners can observe and evaluate before committing resources, promotions can be tested on a small scale, and trade fair outcomes can be assessed through peers' experiences (Glowka *et al*., 2024). Theory of Choice explains that SME owners rationally allocate scarce marketing resources to strategies with the highest expected marginal return on investment. One SME owner captured this calculation:

> *"For a trade fair, I pay TZS 200,000 for the booth and bring 50 litres of oil samples. Last year, I came back with orders for 2,000 litres over three months. That is TZS 8 million in sales from TZS 300,000 investment. Where else can I get that return?"* (SME owner 23, 15-02-2026, Singida Municipality).

This calculation demonstrates rational utility maximisation, SME owners evaluate expected returns against costs and select trade fairs and promotions because they generate the highest profitability per unit of marketing expenditure (Shepherd et al., 2015).

4.6 Marketing Challenges Confronting Sunflower Oil SMEs

Figure 5 presents the marketing challenges reported by sunflower oil SMEs in Singida Region. The study findings reveal that SMEs face a range of marketing challenges that significantly constrain their competitiveness and growth. Survey results show that 81.9% of respondents identified competition from imported edible oils, particularly palm oil, as a major challenge. This reflects the dominance of cheaper imports in the Tanzanian market, which undermines local processors who struggle with higher production costs and limited economies of scale. In addition, 93.2% of SMEs reported a lack of market information, which hampers their ability to identify consumer preferences, anticipate demand fluctuations, and respond effectively to market trends. Similarly, 94.1% of respondents cited limited funds as a critical barrier, restricting investment in modern marketing practices such as branding, packaging, and digital promotion.

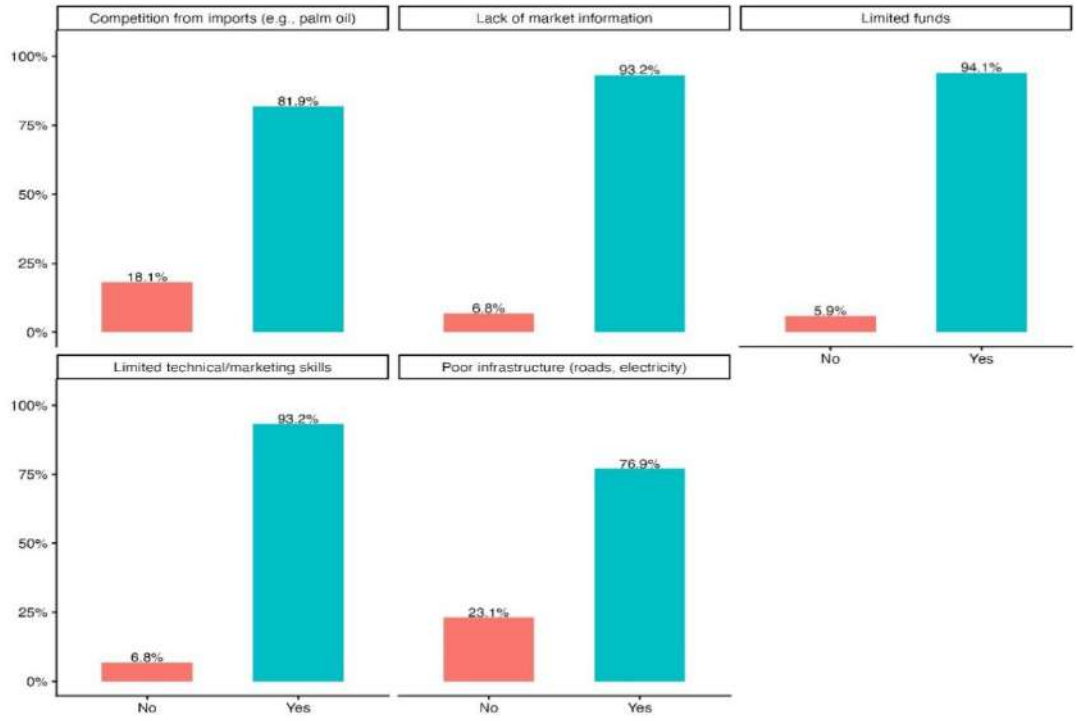

Figure 5
Marketing Challenges Confronting Sunflower Oil SMEs
Source: Field Survey Data (2026)

Another significant challenge is limited technical and marketing skills, reported by 93.2% of SMEs. This constraint reduces the ability of enterprises to adopt innovative marketing approaches, leverage digital platforms, and differentiate their products from imported oils. Poor infrastructure, including unreliable electricity and inadequate road

networks, was also highlighted by 76.9% of respondents as a challenge that increases operational costs and limits access to wider markets. These findings are consistent with studies in Uganda, where agro-processing SMEs faced similar constraints of limited capital, weak market linkages, and poor infrastructure (Kiggundu, 2019). Likewise, evidence from Kenya's edible oil sector shows that competition from imports and lack of technical skills are major barriers to SME growth (Ongeri, 2021). Qualitative data provide deeper insight into how these challenges interact. One key informant explained:

> *"The imported oil comes in branded, sealed plastic containers that look professional. Our oil is sold in reused water bottles or open containers. The customer sees the imported oil and thinks it is safer, even though our oil is fresher and healthier"* (KII 14, cooperative leader,19-02-2026, Mkalama District).

This quotation illustrates how the combination of limited funds (cannot afford branded packaging), limited skills (do not know how to design effective labels), and poor infrastructure (cannot access affordable packaging suppliers) creates a compounded constraint that is greater than the sum of its parts, a finding that has important implications for intervention design. The similarities across contexts reflect the structural challenges common to SMEs in Sub-Saharan Africa, particularly limited access to finance, weak institutional support, and infrastructural deficits. However, variations arise in the extent to which these challenges affect performance. In Tanzania, weak certification systems and limited branding capacity reduce consumer trust in local products. In developed economies, SMEs benefit from stronger institutional support, better infrastructure, and access to market intelligence, which explains why challenges such as lack of market information and poor infrastructure are less pronounced (Gerschewski et al., 2020).

Henceforth, the findings highlight that sunflower oil SMEs in Singida Region require targeted interventions to overcome these challenges. Addressing financial constraints through affordable credit schemes, improving access to market information through digital platforms, strengthening technical and marketing skills through training programmes, and investing in infrastructure development are critical steps towards enhancing competitiveness. Without tackling these challenges, SMEs will remain vulnerable to imported edible oils and unable to fully exploit the growing domestic demand for sunflower oil.

V. CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

This study examined the heterogeneous effects of marketing strategies on market share, processing capacity, and profitability among sunflower oil processing SMEs in Singida Region, Tanzania, using a pragmatic explanatory sequential mixed-methods design. The findings demonstrate that marketing effectiveness is strategy-specific and varies across performance dimensions. Wholesale distribution was the only strategy with a significant positive effect on market share ($\beta = 0.9356$, $p < 0.05$), while promotional campaigns ($\beta = 1.4572$, $p < 0.01$) and trade fair participation ($\beta = 1.0556$, $p < 0.05$) significantly improved processing capacity. Most importantly, only promotional campaigns ($\beta = 0.9752$, $p < 0.05$) and trade fairs ($\beta = 0.9839$, $p < 0.01$) produced significant profitability gains. Branding, packaging, and digital marketing showed no significant effects across any indicator, such as structural constraints, high certification costs (TZS 1.5 million), limited packaging access, unreliable electricity, and low digital literacy, rendering these strategies ineffective under current conditions. The vicious cycle where 94.1% of SMEs lack marketing funds while 93.2% lack market information and skills require coordinated intervention. Policy implications include prioritising trade fair subsidies, establishing marketing matching-grant facilities, and sequencing support to address foundational constraints before promoting branding or digital investments. Theoretically, the findings extend Risk Aversion and Choice theories by demonstrating that SME owners rationally avoid strategies with uncertain returns given existing constraints but readily adopt and benefit from promotional campaigns and trade fairs when risk is reduced through subsidies or cooperative arrangements.

5.2 Recommendations

For SME owners and practitioners, prioritise low-cost promotional campaigns (local radio spots, referral discounts, point-of-sale displays) and form cooperatives to share trade fair booth costs, enabling collective visibility and reduced individual financial burden. Before investing in branding, packaging, or digital marketing, conduct low-cost pilots to test customer response, produce 100 labelled bottles and compare sales against unbranded products over one month. Keep simple records of marketing expenses and sales per channel to enable evidence-based reallocation of limited budgets away from underperforming strategies. For policymakers, institutionalize quarterly marketing review cycles within cooperative structures, subsidize cluster-based TBS/TFDA certification to reduce per-unit costs, integrate marketing skills training into agricultural extension programmes, and establish marketing-specific micro-loans with repayment schedules aligned with expected revenue increases from promotional activities. Without these targeted interventions, sunflower oil SMEs will remain vulnerable to imported edible oils, unable to fully contribute to Tanzania's edible oil import substitution agenda despite growing domestic demand for locally processed sunflower oil.

Declaration of Interest

The authors declare that they do not have any known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Funding Declaration

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

REFERENCES

Ariom, T. O., Dimon, E., Nambeye, E., Diouf, N. S., Adelusi, O. O., & Boudalia, S. (2022). Climate-smart agriculture in African countries: A review of strategies and impacts on smallholder farmers. *Sustainability, 14*(18), 11370. https://doi.org/10.3390/su141811370

Bank of Tanzania. (2017). *Annual report 2016/17: Economic operations*. Bank of Tanzania.

Braun, V., & Clarke, V. (2022). *Thematic analysis: A practical guide*. SAGE Publications.

Chooseta, P., & Sukhabot, S. (2025). Entrepreneurial marketing and marketing agility as drivers of SME performance in uncertain environments. *Journal of Business Research, 186*, 115023. https://doi.org/10.1016/j.jbusres.2024.115023

Cochran, W. G. (1977). *Sampling techniques* (3rd ed.). John Wiley & Sons.

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.

De Giorgi, E. G., & Mahmoud, T. (2015). The theory of choice and firm decision-making under uncertainty. *Journal of Economic Behavior & Organization, 119*, 1–15. https://doi.org/10.1016/j.jebo.2015.07.008

Erasmus, M., & Kauangal, J. (2025). Analysis of technical efficiency of sunflower oil production in Tanzania: A case of small-scale processors in Singida Region. *Journal of Economic and Social Development, 12*(1), 1–9.

Fetters, M. D., Curry, L. A., & Creswell, J. W. (2013). Achieving integration in mixed methods designs—Principles and practices. *Health Services Research, 48*(6, Pt. 2), 2134–2156. https://doi.org/10.1111/1475-6773.12117

Fintan, H. M., & Mbura, O. K. (2024). Entrepreneurial marketing and SME performance in Tanzania's agro-processing industry: The roles of customer intensity, value creation, and proactiveness. *ORSEA Journal, 14*, 1–20. https://doi.org/10.56279/orseaj.v14i2.1

Gerschewski, S., Evers, N., Nguyen, A. T., & Froese, F. J. (2020). Trade shows and SME internationalisation: Networking for performance. *Management International Review, 60*(4), 573–595. **https://doi.org/10.1007/s11575-020-00421-y**

Glowka, E., Kallmuenzer, A., & Zehrer, A. (2024). Risk aversion and strategic decision-making in family SMEs: A conceptual framework. *Journal of Family Business Strategy, 15*(2), 100567. https://doi.org/10.1016/j.jfbs.2023.100567

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods, 18*(1), 59–82. https://doi.org/10.1177/1525822X05279903

Hamzah, M. I. (2025). Market orientation, entrepreneurial marketing and SME performance: The mediating role of marketing agility. *Asia Pacific Journal of Marketing and Logistics, 37*(1), 112–130. https://doi.org/10.1108/APJML-03-2024-0289

Hanaysha, J. R., & Al Shaikh, M. E. (2024). Innovative marketing strategies and SME performance in turbulent business environments. *International Journal of Innovation Studies, 8*(2), 156–172. https://doi.org/10.1016/j.ijis.2023.12.003

Hennink, M., & Kaiser, B. N. (2022). Sample sizes for saturation in qualitative research: A systematic review of empirical tests. *Social Science & Medicine, 292*, 114523. https://doi.org/10.1016/j.socscimed.2021.114523

Hokmabadi, E., Khodadad Hosseini, S. H., & Ahmadi, A. (2024). Marketing capabilities, digital transformation and SME resilience in uncertain environments. *Journal of Strategic Marketing, 32*(4), 512–530. https://doi.org/10.1080/0965254X.2024.2318890

Isinika, A. C., Mdoe, N. S. Y., & Sulle, E. (2021). *Sunflower value chain in Tanzania: Challenges and opportunities for smallholder farmers*. Sokoine University of Agriculture Press.

Israel, M., & Hay, I. (2006). *Research ethics for social scientists*. SAGE Publications.

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica, 47*(2), 263–291. https://doi.org/10.2307/1914185

Kiggundu, R. (2019). Market access challenges for agro-processing SMEs in Uganda. *African Journal of Business Management, 13*(4), 112–124.

Koch, M., & Menkhoff, L. (2025). Risk aversion and entrepreneurial behaviour: New evidence from developing country SMEs. *World Development, 168*, 106265. https://doi.org/10.1016/j.worlddev.2023.106265

Krueger, R. A., & Casey, M. A. (2015). *Focus groups: A practical guide for applied research* (5th ed.). SAGE Publications.

Mboya, J. (2024). Marketing constraints and SME competitiveness in Tanzania's agro-processing sector. *Tanzania Journal of Business Studies, 12*(2), 88–104.

Mchopa, A. K. (2024). Small and medium enterprises in Tanzania's sunflower sub-sector: Opportunities and challenges for sustainable development. *Journal of Small Business and Enterprise Development, 31*(3), 456–478.

Mensah, I., & Narh, L. (2025). Enhancing digital marketing performance of small agro-processing enterprises: The role of absorptive capacity, branding capability, and brand orientation. *Journal of African Business, 26*(1), 1–23. https://doi.org/10.1080/15228916.2024.2351289

Morgan, D. L. (2014). Pragmatism as a paradigm for social research. *Qualitative Inquiry, 20*(8), 1045–1053. https://doi.org/10.1177/1077800413513733

Mushi, H. M. (2024). Digital marketing strategies and SMEs performance in Tanzania: Insights, impact, and implications. *Cogent Business & Management, 11*(1), Article 2415533. https://doi.org/10.1080/23311975.2024.2415533

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.

Okonkwo, I. (2022). Digital marketing adoption and brand visibility among agro-processing SMEs in Nigeria. *Journal of African Business, 23*(4), 901–918.

Ongeri, J. (2021). Wholesale distribution networks and SME market access in Kenya's edible oil sector. *African Journal of Business and Economic Research, 16*(3), 67–85.

Patton, M. Q. (2015). *Qualitative research & evaluation methods* (4th ed.). SAGE Publications.

Pramod, K., Nataraj, S., & Manjula, M. L. (2021). Role of marketing promotion schemes for promoting MSMEs: A study. *Journal of Emerging Technologies and Innovative Research, 8*(6), 45–56.

Rubin, H. J., & Rubin, I. S. (2012). *Qualitative interviewing: The art of hearing data* (3rd ed.). SAGE Publications.

Rubio Andrés, J. G., Ramos, E., & Del Mar Jiménez, M. (2024). Competitive strategy, innovation and market performance in entrepreneurial SMEs. *International Entrepreneurship and Management Journal, 20*(1), 89–112. https://doi.org/10.1007/s11365-023-00895-6

Sama, H., & Mashenene, R. G. (2025). Integrating service value chain governance on small sunflower processing industries in Dodoma, Tanzania. *Applied Studies in Agribusiness and Commerce, 19*(2). https://doi.org/10.19041/APSTRACT/2025/2/15

Shepherd, D. A., Williams, T. A., & Patzelt, H. (2015). Thinking about entrepreneurial decision making: Review and research agenda. *Journal of Management, 41*(1), 11–46. https://doi.org/10.1177/0149206314541153

SIDO. (n.d.). *With SIDO you can prosper*. Small Industries Development Organization.

Sintoo, Y. E. (2015). *Factors affecting income of smallholder sunflower farmers in Singida Region, Tanzania: A case study of sunflower farmers in Singida Rural District* [Master's dissertation, Mzumbe University].

Tashakkori, A., Johnson, R. B., & Teddlie, C. (2021). *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioral sciences* (2nd ed.). SAGE Publications.

Wooldridge, J. M. (2020). *Introductory econometrics: A modern approach* (7th ed.). Cengage Learning.