Cuadernos de Economía (2024) Volume 47, Issue 135, 9-14

Asociación Cuadernos de economía

Cuadernos de economía

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Value Chain Financing and Competitive Advantage of Edible Oil Manufacturing Companies in South Africa: Empirical Review

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Jel Codes:

Keywords:
Competitive Advantage, Value Chain Financing, Operational Efficiency, Market Share.

Abstract: The purpose of this study was to investigate how value-chain finance affects South African manufacturing companies' ability to compete. A hypothesis was developed, and a thorough analysis of pertinent literature was carried out to accomplish this goal. Manufacturing firms that were listed between 2013 and 2023 on the Johannesburg Stock Exchange (JSE) made up the research population. One hundred similar businesses were found. Secondary sources were used to gather data for the study, such as the JSE's 2013-2023 records and the annual reports of the chosen companies. Multiple regression analysis was used to evaluate the hypothesis statistically. The results showed that value-chain finance improves South African industrial enterprises' competitive edge, although in a small way. To maximise value-chain financing, manufacturing companies are advised to switch from functional-based costing to activity-based costing. To increase the uptake and efficacy of this strategy, accountants working for these businesses should also receive sufficient training through conferences and seminars. To improve risk assessment, capital cost management, and competitive advantage enhancement, this study provides insightful information for the edible oil sectors, both present and future, on the application of value-chain financing at different stages of the value chain.

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https://doi.org/10.32826/cude.v47i135.1502

Introduction

To thrive in today's highly competitive business environment, firms must secure a competitive advantage, even if only temporarily. Aliamutu & Mkhize (2024b) argue that a corporation achieves competitive advantage when its activities within a market or industry create economic value and when few competitors engage in similar activities. They link competitive advantage to profitability, asserting that "a firm achieves above-normal performance when it produces greater-than-anticipated value from its utilised resources." A corporation can attain this advantage through various means, with two principal strategies being pricing leadership and differentiation (Aliamutu & Mkhize, 2024a). Pricing leadership arises when a corporation establishes a distinct market position by leveraging efficiency, superior service, or product quality (Pacheco et al., 2017). When adopting either of these strategies, value-chain financing can serve as a critical tool for refining the chosen approach, thereby enhancing competitive advantage. According to Lutsiak et al. (2020), value-chain financing contributes to improved customer satisfaction and optimises cost management, further supporting a firm's strategic objectives. Value-chain financing is a strategic leadership concept initially introduced and popularised by Michael Porter in his seminal 1985 work, Competitive Advantage: Establishing and Maintaining Superior Productivity (Barrett et al., 2019). Trienekens (2011) defines the value chain as the sequence of activities required to produce goods or deliver services. This chain represents a connected series of operations that generate value, spanning from sourcing raw materials for component manufacturers to delivering the final product to consumers (Mwansa, 2016).

This research provides critical insights for the edible oil industry by outlining strategies for establishing and implementing value chain financing across various stages or locations within the value chain to enhance risk identification and capital cost management, ultimately improving cost efficiency for all participants. Such advancements are expected to stimulate enterprise growth, create additional employment opportunities, and strengthen South Africa's economic resilience. Moreover, understanding financial flows within the value chain offers significant benefits for policymakers, serving as a foundation for regulations that encourage financial institutions to engage in value chain financing and invest in agricultural development, thereby accelerating job creation. Smallholder farmers, who supply raw materials to large agricultural companies within their communities, form a vital part of South Africa's rural population and contribute substantially to the national food supply. Additionally, this study examines the impact of value chain financing on the competitive advantage of manufacturing firms, concluding that while value chain financing has a positive impact, its influence on competitive advantage in South African manufacturing firms remains limited.

Literature Review

Value chain strategies outline the intricate relationships between consumers and producers, enabling the identification of gaps that can inform the prioritisation of actions. This process brings increased focus to the interconnections within the value chain, as the quality of these linkages and their associated support systems is pivotal for improving the competitiveness of enterprises and the broader manufacturing sector (Hansen et al., 2018). Value chain financing seeks to understand how a business creates value for consumers by assessing the contributions of various operations within the organisation. It serves as a tool for analysing, organising, and optimising connections across the value chain (Macchiavello et al., 2022).

The links within a value chain illustrate the relationships between the profitability of one task and its impact on the costs and outcomes of another. The competitiveness of individual firms is intrinsically tied to the efficiency of their respective value chains (Abid et al., 2020). Value chain financing plays a critical role in identifying barriers to growth, such as which segments of the chain hinder progress for others and what obstacles require focused management attention. Its overarching goal is to maximise value creation while minimising costs (Erokhin et al., 2020). When applied to the value chain, Porter's Theory of Competitive Advantage underscores the importance of adopting effective value chain strategies and implementing sensible practices to enhance profitability (Demmler, 2020). The production of goods and services should prioritise those with the lowest opportunity cost (Bosiu & Vilakazi, 2020). According to Competitive Advantage Theory, firms should focus on producing high-quality products that command premium prices. Effective supply chain management can reduce operational expenses, advertising costs, and unit costs, enhancing competitiveness while connecting small farmers to broader markets (Cruz et al., 2022; Lutsiak et al., 2020).

Recognising internal funding requirements and tailoring investment instruments to the needs of value chain participants can enhance the efficiency and reliability of food production value chain financing. This approach helps reduce financial management fees, leverages value chain interconnections, and minimises risks for the chain and its members (Golgeci et al., 2021). As agriculture modernises through greater integration and dependency, the demand for value chain financing becomes increasingly evident (Reardon & Minten, 2021). Inadequate financing within the value chain remains a significant barrier to environmental sustainability and improving quality of life (Bimha et al., 2020). Financial restrictions, along with disparities in access and cost, limit the ability of value chain participants to compete and profit (Tandra et al., 2022). A key concern is whether sufficient funding can be secured within the value chain, particularly when financial unpredictability reduces resources and heightens risk scrutiny (Villalba et al., 2023). Furthermore, the growing concentration of control in the agriculture sector has altered the landscape for value chain financing.

Mastos & Gotzamani (2022) assert that synchronising the components of the value chain creates conditions that enhance consumer satisfaction, particularly in terms of cost-effectiveness, quality, and delivery. A business will have a competitive edge if it can carry out value chain operations more cheaply and effectively than its rivals (Tandra et al., 2022). The industry value chain and the internal value chain of the organisation are two distinct types of value chains. All technological and material procedures that enhance the product's value are included in the internal value chain (Villalba et al., 2023). Understanding the processes that provide a company a competitive edge and maximising those advantages more successfully than rivals are key components of evaluating a company's internal value chain (Mastos et al., 2022). This review consists of four phases:

(i) Identifying Value Chain Operations: The following steps are necessary to identify value chain operations:

- Identify the distinct operations that generate value

through various means. These will involve different assets, cost drivers, costs, and personnel. For example, comparing product design operations with marketing activities.

- Determine the core operational and administrative functions. While many organisations prioritise operational activities, proponents of value chain financing argue that this focus is overly narrow, addressing only immediate concerns and failing to provide the organisation with a comprehensive competitive advantage.

(ii) Identifying Strategic Operations: An organisation must determine which product attributes are valued by current consumers in order to inform its strategic initiatives. It should also identify attributes that can be leveraged to create value for potential consumers.

(iii) Activity Cost Tracing: The organisation requires a financial system that allocates costs to various value chain operations. It is essential for a company to focus on activities that generate value in order to enhance management efficiency.

(iv) Enhance the Oversight of Value Chain Operations: To gain a competitive edge, a firm must manage its value chain more effectively than its competitors. This involves reducing costs while enhancing its competitive advantage. However, this does not imply that all expenses must be cut; instead, it suggests that costs which do not negatively affect the competitive advantage should be reduced (Remondino & Zanin, 2022).

The Sector's Value Chain: The value chain of an industry begins with raw material producers and concludes with the distribution of the final product to the consumer (Kusi-Sarpong et al., 2022). Understanding and leveraging an enterprise's relative competitiveness within the market is crucial for analysing the industry value chain. Each business starts with raw materials and ends with a transaction to the consumer (Hofstetter et al., 2022). Numerous connections exist throughout this entire process. Value Chain Financing (VCF) is a pragmatic funding strategy that can help enhance profitability. VCF offers an opportunity to reduce financing costs and risks while extending support to agricultural producers (Manyise & Dentoni, 2021). For manufacturing firms, VCF incentivises thinking beyond the immediate recipient of funding, allowing businesses to better understand the sector's competitive capacity, risks, and the creation of products that align with the demands of their position within the value chain (Das Nair & Landani, 2020). Moreover, much of the funding for value chains originates from both financial institutions and certain value chain partners.

Upstream and downstream linkages in the value chain reflect distinct, financially viable industry segments. Das Nair et al. (2020) suggested answering essential questions to determine industry value chain linkages: Can an objective market price be set for this value chain connection's output? Do any companies only sell and manufacture in this supply chain segment? The industry may be a separate section of the industrial value chain if either question is yes (Elamin & de Córdoba, 2020). A corporation must evaluate its segment position after creating the industry value chain. Industry margins, return on assets, comparisons, and capital budgeting can assess the firm's industry standing (Elamin et al., 2020). After recognising industry gaps, the firm can revise its internal processes to gain a competitive edge. Analysing and mapping the company's value chain and aligning measures with its competitive position are also required (Joshi et al., 2023). The firm's productivity and competitiveness are assessed. Porter (1990) created the value chain framework Figure 1.

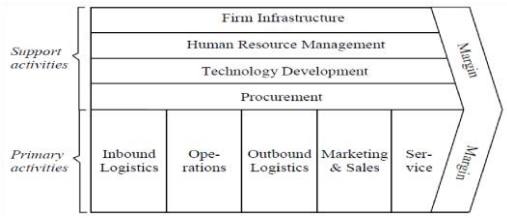

Figure 1: Illustration of the Value Chain Porter (1990).

Empirical Review

The following discussion builds on previous empirical studies that have established a link between value chain financing and competitive advantage. Porter (1990) pioneered value chain analysis for competitive advantage. He said value chain analysis identifies connections between value-creating activities to cut costs and boost differentiation. This might happen inside or externally between the company and its trading partners and customers. Further empirical studies linking value chain financing to competitive advantage include Ricciotti (2020), who conducted an evaluation of 199 firms in Malaysia to investigate "the impact of value chain financing on the profit margin of companies." The results revealed a correlation coefficient of 0.74 (74%) between value chain financing and the firm's profit margin, suggesting that increased use of value chain financing by businesses could lead to a 74% increase in profit.

The study found that 57% of respondents agreed that value chain financing is an effective method for reducing a business's operational costs, providing the organisation with an opportunity to achieve a cost-leadership position in its sector and enhance performance. Qiang et al. (2021) noted that financial resources often appear differently when delivered through a value chain compared to through financial institutions. Various financial assets can be utilised to improve access to finance while lowering costs and identifying risks within the company (Jraisat, 2016). In a fast-paced production environment, value chain financing, with its significant implications, plays a crucial role. The movement of financing towards value chain initiatives is referred to as value chain financing. Firms can leverage the value chain to generate profits and gain a competitive advantage over competitors (CHEGE, 2017; Mofolo, 2018). However, in recent years, agribusiness value chains have received limited funding due to the associated risks and the fragmentation of capital (Kabu & Tira, 2015).

Some organisations have remained resilient, finding innovative ways to enhance agricultural production and make it their core business (Henson & Humphrey, 2010; Kouwenhoven et al., 2012). As such, value chain financing is crucial for addressing the needs and constraints of value chain actors. The result-based perspective (RBP) highlights the impact of value chain activities on competitive advantage (Randall & Theodore Farris, 2009). Effective demand management helps control consumer demand by tracking emerging trends (Tran et al., 2013; Vonsée et al., 2019), while customer relationship management fosters long-term relationships through data analysis and understanding consumer needs (Müller et al., 2019). German et al. (2020) did not consider additional performance indicators, such as market share. Hidayati et al. (2021) conducted an experiment to examine "the consequences of the value chain for firm and industry

analysis" among specific enterprises in Frankfurt. The study found that value chain financing enables management to control costs more effectively than competitors, resulting in improved operational efficiency, revenue growth, sales growth, customer satisfaction, quality, innovation, and asset utilisation.

Further studies in different countries are needed to assess if environmental and participant characteristics significantly affect the findings. Kalaitzi & Tsolakis (2022), in their doctoral thesis titled "Value Chain Financing and Competitive Advantage in Telecommunication Firms in the United Kingdom," distributed 1,316 questionnaires to marketing department employees of broadband providers to explore the role of value chain financing in achieving competitive advantage. Appiah et al. (2021) argue that systems are not designed to allocate costs to value-added activities; however, the effective implementation of activity-based costing (ABC) can address the issue of cost allocation. Additionally, obtaining precise data on return on sales and return on assets to evaluate the value chain can be challenging, meaning that approximate estimates may be required to provide insight into the value chain. Ultimately, estimates complicate the evaluation of the value chain, particularly in sectors with highly intricate value chains. Despite the challenges associated with value chain strategies, it can serve as a highly effective tool for Strategic Management Accounting (Lebdioui, 2022). In a highly competitive environment, firms must carefully manage their operations and expenses to sustain their competitive advantage.

Model Specification

The model developed for this research is outlined as follows:

$$MKTS = f(a_o + \beta_1 \log OPEREF + \beta_2 \log NPBT + \beta_3 \log INV. + ei) \ldots\ldots\ldots\ldots..(ii)$$

Where:
a = Regression Constant
NPBT= Net Profit before Tax
OPEREF = Operational Efficiency
MKTS = Market Share
ei = Stochastic
INV = Investment
β^3 = Regression Co- efficient

Research Method

The researchers employed a questionnaire-based approach for this study, as it facilitates the collection of comprehensive data from numerous organisations and institutions, thereby supporting the valid generalisation of the findings. This method further allows for the assessment of the views, attitudes, preferences, or dispositions of the sampled population without subjecting them to any alteration or influence. The study focused on manufacturing firms listed in the JSE Database from 2013 to 2023, identifying a total of one hundred (100) firms. Secondary data sources, specifically financial statements spanning fifteen years, were utilised for the analysis (Lebdioui, 2022). This research investigates two primary variables: value-chain financing and competitive advantage. Value-chain financing was assessed through the firms' operational efficiency, as indicated by asset turnover, while competitive advantage was measured by market share (Das & Gundimeda, 2022). Multiple regression analysis was used to evaluate the hypothesis, employing the Econometric Perspectives (E-perspective) version 3.1 Statistics Program.

Hypothesis Testing

Hypothesis: Value Chain financing does not significantly influence the Competitive Advantage of a manufacturing companies.

The MKTS of selected firms was regressed over a 15-year period against OPEREF, NPBT, and INV, as shown in Table 1. The results indicate a strong positive correlation (0.87) between MKTS and the independent variables. The coefficient of determination (r^2) of 0.76 suggests that 76% of MKTS variation is explained by OPEREF, NPBT, and INV. While the model fits well, 24% of the variation is attributed to factors not included. These findings suggest that value-chain financing positively influences market share, though the effect is not statistically significant.

Table 1: Multiple Correlation Coefficient.

Variable	Effect on MKTS	Coefficient (%)	P-Value	Interpretation
OPEREF	Positive	42.36%	0.8091	Inconsequential Effect
NPBT	Positive	114.97%	0.0002	Substantial Effect
INV	Negative	-68.17%	0.0387	Substantial Effect

Source: Self-Generated.

Conclusion

Value chain financing, which focuses on eliminating non-value-added activities to reduce costs and enhance distinctiveness, has been widely recognised as an effective strategy for increasing market share. It helps managers better control cost drivers, improving operational efficiency, revenue, market share, customer satisfaction, quality, innovation, and asset utilisation. The current study found a strong positive correlation between value chain financing and competitive advantage in South African manufacturing firms, supporting previous research on its impact on market share and profit margins. A potential explanation for the lack of a significant relationship between these factors may lie in organisations' failure to properly identify activity drivers. Inaccurate identification of these drivers can lead to the unintended removal of value-adding activities from the value chain, thereby reducing the potential for optimal value generation. The findings suggest that South African manufacturing firms should shift from Functional-Based Pricing to Activity-Based Pricing to optimise value-chain financing. This transition can be facilitated by providing appropriate training to employees on the benefits and necessity of the changes, involving stakeholders in the decision-making process, and offering incentives to promote acceptance. Furthermore, accountants in these firms should receive targeted training through courses, seminars, and conferences to enhance the effectiveness of value-chain financing.

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