Impact of Target Costing on New Product Development Strategy for SMES in Nigeria's Manufacturing Sector

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Abstract

Small and Medium Enterprises (SMEs) constitute over 96% of businesses and 84% of employment in Nigeria's manufacturing sector and are critical to economic diversification and industrial growth (National Bureau of Statistics [NBS], 2024). Central to the survival and competitiveness of manufacturing SMEs is their ability to continuously develop new products that meet customer needs at profitable prices. However, Nigerian manufacturing SMEs operate in a challenging environment characterized by high production costs, unstable exchange rates, poor infrastructure, limited access to finance, and intense competition from imports (Ariyo, 2022). These conditions often lead to cost overruns, product failures, and low profitability during New Product Development (NPD). Traditional cost management approaches such as cost-plus pricing is ineffective in this context because they determine price after costs have been incurred (Horngren, Datar, & Rajan, 2022). Target Costing, a proactive, market-driven cost management technique that determines allowable cost as `Market Price to Desired Profit` and works backward during the design phase, offers a viable alternative (Cooper & Slagmulder, 1997). Despite its documented benefits in developed economies, there is limited empirical evidence on the adoption and impact of target costing on NPD strategy among manufacturing SMEs in Nigeria. Anchored on Contingency Theory (Fisher, 1998) and Resource-Based View (Barney, 1991), this study examined the impact of target costing on NPD strategy and performance outcomes of manufacturing SMEs in Nigeria. Specifically, the study assessed the level of awareness and adoption of target costing, examined its impact on NPD strategy, identified implementation challenges, evaluated its effect

on performance outcomes, and determined the future outlook for adoption. A descriptive survey research design was adopted. The population comprised 18,500 registered manufacturing SMEs in five major industrial hubs: Lagos, Ogun, Anambra, Kano, and Rivers States. Using the Taro Yamane (1967) formula, a sample size of 470 was determined and 412 usable questionnaires were retrieved, representing an 87.7% response rate. A multi-stage sampling technique was used. Primary data were collected using a structured 50-item questionnaire divided into six sections: Bio-Data, Awareness and Adoption, Impact on NPD, Implementation Challenges, Performance Outcomes, and Future Outlook. Sections B–F used a 5-point Likert scale. Data were analyzed using SPSS v26 through descriptive statistics, Pearson correlation, and multiple and hierarchical regression. The findings revealed that the level of target costing adoption among Nigerian manufacturing SMEs is moderate, with only 39.6% of firms confirming current use. Regression analysis showed that Target Costing Adoption has a positive and significant effect on NPD Strategy ($\beta = 0.667$, $p < 0.001$, $R^2 = 0.539$). This implies that SMEs that adopt target costing are better able to align product features with customer willingness to pay, reduce cost overruns, encourage cross-functional teamwork, and achieve faster time-to-market. Similarly, Target Costing Adoption has a positive and significant effect on Performance Outcomes ($\beta = 0.518$, $p < 0.001$, $R^2 = 0.315$), leading to improved profitability, cost control, product quality, market share, and return on investment. Furthermore, Implementation Challenges significantly moderate the relationship between target costing and NPD strategy ($\beta = -0.118$, $p = 0.005$). Key challenges identified include unstable raw material costs, foreign exchange volatility, poor access to market information, inadequate accounting software, and limited technical expertise. This finding supports Contingency Theory, which posits that the effectiveness of management practices depends on contextual fit. The study concludes that target costing is an effective tool for improving NPD strategy and performance of Nigerian manufacturing SMEs. However, its benefits are constrained by the prevailing business environment. Therefore, for target costing to deliver optimal results, SMEs must institutionalize it as part of NPD, while government and professional bodies must address structural and capacity challenges. The study contributes to theory by extending Contingency Theory and RBV to the Nigerian SME context and by providing empirical evidence on target costing in a developing economy. Practically, it recommends that SMEDAN and ICAN should develop simplified target costing toolkits and training programs for SMEs, while government should stabilize macroeconomic variables and improve market data availability. The study is limited by its cross-sectional design and focus on five states. Future research should adopt longitudinal designs and explore the role of technology in target costing adoption.

***Keywords**: Target Costing, New Product Development, SMEs, Manufacturing Sector, Nigeria, Performance, Contingency Theory*

1.1Introduction

The manufacturing sector is widely recognized as a key driver of economic transformation, job creation, and industrialization in both developed and developing economies. In Nigeria, the manufacturing sector contributed 8.46% to real GDP in Q4 2023, and Small and Medium Enterprises (SMEs) account for over 96% of businesses and 84% of employment in the sector (National Bureau of Statistics [NBS], 2024). SMEs are therefore considered the engine of industrial growth and economic diversification away from oil dependence. Central to the growth and survival of manufacturing SMEs is their ability to continuously develop new products that meet market needs at competitive prices. New Product Development (NPD) is a strategic process

through which firms conceive, design, and commercialize new products to gain competitive advantage (Kotler & Keller, 2016). For SMEs in Nigeria's manufacturing sector, NPD is both an opportunity and a challenge. The opportunity lies in meeting the demand of a population of over 220 million people with diverse needs. The challenge lies in a business environment characterized by high cost of production, unstable exchange rates, poor infrastructure, limited access to finance, and intense competition from imported goods (Ariyo, 2022). Consequently, many Nigerian manufacturing SMEs experience high rates of product failure, cost overruns, and low profitability during NPD. Cost management during NPD has therefore become a critical success factor. Traditional cost management approaches such as standard costing and cost-plus pricing often fail in competitive markets because they determine price after costs have been incurred (Horngren, Datar, & Rajan, 2022). In contrast, Target Costing is a market-driven, proactive cost management technique that reverses the logic. Target costing determines the allowable cost of a product by subtracting a desired profit margin from a competitive market price, and then works backward to achieve that cost during the design and development stages (Cooper & Slagmulder, 1997). The formula is: Target Cost equals Target Selling Price less Target Profit Margin.

Target costing originated in Japan in the 1960s and has been credited with the success of Japanese manufacturing firms in achieving high quality at low cost (Ansari, Bell, & Swenson, 2012). Unlike traditional costing, target costing integrates marketing, design, engineering, and accounting functions from the onset of NPD. It forces firms to consider customer value, competitor pricing, and profitability simultaneously before committing resources to production. Research in developed economies has shown that target costing leads to reduced development costs, faster time-to-market, improved cross-functional collaboration, and higher profitability (Ibusuki & Kaminski, 2007). For Nigerian manufacturing SMEs, target costing is particularly relevant because of the price-sensitive nature of the Nigerian market. Consumers are highly responsive to price, and firms that cannot deliver value at the right price risk losing market share. Furthermore, given that 70% to 80% of a product's lifetime cost is committed during the design phase (Ellram, 2006), managing costs at the NPD stage is more effective than trying to cut costs after production has started. By adopting target costing, SMEs can align product features with what customers are willing to pay, avoid over-engineering, and engage suppliers early to meet cost targets.

Despite its potential benefits, the adoption of target costing among SMEs in Nigeria remains low. Most studies on strategic cost management in Nigeria have focused on large corporations in sectors such as oil and gas, cement, and fast-moving consumer goods (Akinsanya, 2018; Omoregie & Osifo, 2016). The SME context presents unique constraints. These include limited technical expertise in cost management, inadequate accounting information systems, poor access to reliable market data, unstable input prices, and weak supplier relationships (Olatunji, 2019). These constraints may hinder the effective implementation of target costing and may moderate its impact on NPD strategy. Moreover, the Nigerian operating environment adds complexity. Issues such as foreign exchange volatility, multiple taxation, poor power supply, and inflation directly affect cost projections and make it difficult to set stable target costs (World Bank, 2023). If target costing is to be useful for Nigerian SMEs, it must be adapted to these realities. Understanding how SMEs currently use, or fail to use, target costing in NPD is therefore important for both theory and practice. Empirically, there is a gap in literature regarding the impact of target costing on NPD strategy specifically for manufacturing SMEs in Nigeria. Most existing Nigerian studies have examined cost management generally, without isolating target costing or linking it directly to NPD outcomes (Udeh & Ezejiofor, 2020). Studies from other developing countries such as Ghana,

Kenya, and South Africa also show mixed results and cannot be directly generalized to Nigeria due to differences in market structure and policy environment (Agyei-Mensah, 2016).
Given this background, this study seeks to investigate the impact of target costing on new product development strategy for SMEs in Nigeria's manufacturing sector. The study will assess the level of awareness and adoption, examine how target costing influences NPD decisions, identify implementation challenges, and evaluate performance outcomes. The findings are expected to provide empirical evidence that can guide SME managers, policymakers, and professional bodies such as the Institute of Chartered Accountants of Nigeria [ICAN] and the Small and Medium Enterprises Development Agency of Nigeria [SMEDAN] in promoting cost management practices that enhance SME competitiveness.

1.2 Statement of Research Problem

SMEs in Nigeria's manufacturing sector operate in a highly competitive and cost-pressured environment. Despite government policies aimed at promoting local manufacturing, many SMEs struggle with high production costs, low capacity utilization, and poor survival rates. NBS (2024) reports that over 60% of SMEs fail within the first 5 years of operation, with cost-related problems cited as a leading cause. New product development is essential for growth, but it is also risky and capital intensive. Traditional costing methods used by many Nigerian SMEs determine costs after the product has been designed, leading to cost overruns and products that are priced above what the market can bear (Horngren et al., 2022). This approach is ineffective in a market where price is largely determined by competition and customer purchasing power. Target costing offers an alternative by starting with the market price and working backward to determine allowable costs. International evidence suggests that target costing improves NPD outcomes by aligning product design with customer value and profitability goals (Ansari et al., 2012). However, there is limited empirical evidence on whether Nigerian manufacturing SMEs are aware of, have adopted, and benefit from target costing. Furthermore, the Nigerian business environment presents unique challenges such as unstable raw material costs, foreign exchange fluctuations, and poor infrastructure that may affect the implementation and effectiveness of target costing (World Bank, 2023). Without understanding these context-specific factors, recommendations from studies conducted in Asia or Europe may not be applicable. Therefore, the problem this study addresses is: To what extent does target costing impact new product development strategy and performance outcomes for SMEs in Nigeria's manufacturing sector, and what challenges affect its adoption? Answering this question will provide evidence-based insights for improving cost management and NPD practices among Nigerian SMEs.

1.3 Research Objectives

The main objective of this study is to examine the impact of target costing on new product development strategy for SMEs in Nigeria's manufacturing sector.

The specific objectives are:

1. To assess the level of awareness and adoption of target costing among manufacturing SMEs in Nigeria.
2. To examine the impact of target costing on the new product development strategy of manufacturing SMEs in Nigeria.
3. To identify the challenges facing the implementation of target costing in Nigerian manufacturing SMEs.

4. To evaluate the effect of target costing on the performance outcomes of new products developed by SMEs in Nigeria.
5. To determine the future outlook for the adoption and use of target costing among manufacturing SMEs in Nigeria.

1.4 Research Questions

Based on the objectives, the study seeks to answer the following questions:

1. What is the level of awareness and adoption of target costing among manufacturing SMEs in Nigeria?
2. How does target costing influence the new product development strategy of manufacturing SMEs in Nigeria?
3. What are the key challenges encountered by Nigerian manufacturing SMEs in implementing target costing?
4. What is the effect of target costing on the performance outcomes of new products developed by SMEs in Nigeria?
5. What is the future outlook for the adoption of target costing among manufacturing SMEs in Nigeria?

1.5 Research Hypotheses

The following null hypotheses will be tested:

H01: There is no significant relationship between the adoption of target costing and new product development strategy of manufacturing SMEs in Nigeria.
H02: There is no significant relationship between the use of target costing and the performance outcomes of new products in Nigerian manufacturing SMEs.
H03: Implementation challenges do not significantly affect the relationship between target costing and NPD strategy in Nigerian manufacturing SMEs.

1.6 Scope of Research

The study is geographically scoped to manufacturing SMEs operating in Nigeria across the six geopolitical zones, with concentration in major industrial hubs including Lagos, Ogun, Anambra, Kano, and Rivers States due to high concentration of manufacturing activities (NBS, 2024).
Conceptually, the study focuses on target costing as an independent variable and new product development strategy and performance outcomes as dependent variables. The study is limited to SMEs as defined by SMEDAN (2021): firms with 10-199 employees and annual turnover of ₦5 million to ₦500 million. The study covers SMEs that have undertaken at least one new product development project between 2021 and 2026. Data will be collected using the structured 50-item questionnaire covering bio-data, awareness, impact, challenges, performance, and future outlook. The study does not cover service sector SMEs or large corporations with over 200 employees.

1.7 Significance of Research

This study is significant in both academic and practical terms.

To SME Owners and Managers: The findings will provide practical guidance on how target costing can be used to improve NPD decisions, control costs, and enhance product competitiveness. This can help reduce product failure rates and improve profitability.

To Policymakers and SMEDAN: The study will identify institutional and environmental barriers to target costing adoption. This can inform policy interventions, training programs, and support services aimed at improving cost management capacity in SMEs.

To Professional Bodies: Bodies such as ICAN and the Chartered Institute of Management Accountants [CIMA] can use the findings to design curricula and continuing professional development programs on strategic cost management for SMEs.

To Academia: The study contributes to the body of knowledge on strategic cost management in developing economies. It extends target costing theory to the Nigerian SME context, an area with limited empirical research (Udeh & Ezejiofor, 2020). It also provides a validated instrument for future studies.

To the Nigerian Economy: By improving NPD success rates and cost efficiency in SMEs, the study indirectly supports job creation, import substitution, and economic diversification goals of the Nigerian government.

1.8 Operational Definition of Terms

1. Target Costing: A market-driven cost management technique where the allowable cost of a product is determined by subtracting the desired profit from the competitive market price, and efforts are made to achieve that cost during product design and development (Cooper & Slagmulder, 1997).
2. New Product Development (NPD) Strategy: The set of decisions, processes, and activities involved in creating and launching new products, including idea generation, concept development, design, testing, and commercialization (Kotler & Keller, 2016).
3. SMEs: Small and Medium Enterprises defined by SMEDAN (2021) as enterprises with 10 to 199 employees and total assets excluding land and building of between ₦5 million and ₦500 million.
4. Manufacturing Sector: Establishments engaged in the mechanical or chemical transformation of materials into new products (NBS, 2024).
5. Performance Outcomes: The measurable results of NPD activities, including profitability, cost reduction, market share growth, product quality, and customer satisfaction, that may be influenced by target costing.
6. Implementation Challenges: Barriers or difficulties such as lack of expertise, unstable costs, poor information, and limited resources that hinder the effective adoption of target costing in SMEs.

2.1 Conceptual Literature Review

This section explains the key concepts underpinning the study: Target Costing, New Product Development Strategy, SMEs, and Performance Outcomes in the Nigerian manufacturing context.

2.1.1 Concept of Target Costing

Target costing is a strategic cost management philosophy that begins with the customer and market, not with production. It defines the maximum allowable cost for a product based on what customers are willing to pay and the profit the firm wants to earn (Yoshikawa, Innes, & Mitchell, 1994). The core equation is: `Target Cost = Market-Driven Price – Desired Profit`.

Four features distinguish target costing from traditional costing:
1. Price-led costing: The market determines price, not internal costs.
2. Customer focus: Product features are designed around customer value.
3. Cross-functional involvement: Design, engineering, marketing, and procurement work together from day one.
4. Life-cycle orientation: Costs are managed across the entire product life cycle, not just production (Feil, Yook, & Kim, 2004).

For SMEs, target costing shifts cost control to the earliest stage where most costs are locked in. Kato (1993) observed that Japanese firms use target costing to force innovation: if the target cost cannot be met, the design team must find new materials, processes, or supplier arrangements. This makes target costing both a cost tool and an innovation driver.

In Nigeria's context, target costing is relevant because consumers are highly price sensitive and competitors include cheap imports from Asia (Akinbode & Ogunleye, 2018). If SMEs can design to a target cost, they avoid launching products that are "too expensive to sell."

2.1.2 New Product Development Strategy

NPD strategy refers to the deliberate plan a firm uses to create and launch new products. It covers decisions on: which markets to target, what features to include, how fast to launch, how much to invest, and how-to price (Crawford & Di Benedetto, 2015).

There are 3 dominant NPD approaches:

1. Technology-push: Start with R&D and find a market later. Risky for SMEs with limited resources.

2. Market-pull: Start with customer needs and develop products to meet them. More suitable for Nigerian SMEs.

3. Inter-functional: Combines both, with marketing, production, and finance collaborating (Trott, 2017).

Target costing aligns best with market-pull and inter-functional NPD. It forces the firm to ask "Can we make this product profitably at the price customers will pay?" before heavy investment (Tani, 1995). This reduces the risk of late-stage design changes, which are costly for SMEs.

For Nigerian manufacturing SMEs, NPD strategy is often informal and reactive. Many firms copy competitors or respond to distributor requests without proper cost analysis (Okpara, 2011). This leads to products that are either unprofitable or fail in the market.

2.1.3 Small and Medium Enterprises in Nigeria's Manufacturing Sector

The definition of SMEs varies. SMEDAN (2017) classifies medium manufacturing firms as those with 50-199 employees and ₦50m-₦500m in assets. SMEs dominate Nigeria's manufacturing landscape in food processing, textiles, plastics, chemicals, and metal fabrication (Ayyagari, Beck, & Demirguc-Kunt, 2007).

Key characteristics of Nigerian manufacturing SMEs:
1. Resource constraint: Limited capital and technical skills.
2. Informal systems: Weak cost accounting and record keeping.
3. Environmental turbulence: Power outages, forex volatility, and multiple taxes increase uncertainty (Ojeka, Iyoha, & Mukoro, 2014).
4. Market proximity: Closer to customers, so can respond faster if they have the right systems.

Because of these traits, SMEs need cost tools that are simple, proactive, and market-oriented. Target costing fits because it does not require sophisticated ERP systems to start, it requires discipline in planning.

2.1.4 Performance Outcomes of NPD

Performance can be measured in financial and non-financial terms. Financial outcomes include profitability, ROI, and cost reduction. Non-financial outcomes include time-to-market, product quality, customer satisfaction, and market share (Kaplan & Norton, 1996).

Target costing is expected to improve both. By designing to cost, firms reduce waste and rework. By focusing on customer value, they increase acceptance. A study of SMEs in Malaysia found that firms using target costing had 18% lower development costs and 22% faster launch times compared to firms using standard costing (Chong, 2015).

For Nigerian SMEs, key performance indicators relevant to NPD are: survival rate of new products, gross margin on new products, and customer repeat purchase (Nwude & Okeke, 2018).

2.1.5 Link Between Target Costing and NPD Strategy

The conceptual link is that target costing provides the financial discipline for NPD. Without a cost target, NPD teams tend to "gold plate" products with features customers don't value (Monden & Hamada, 1991). With a target, every design decision is tested against cost and value.

Three mechanisms explain this link:

1. Cost planning: Sets a financial boundary before design starts.
2. Value engineering: Forces teams to remove non-value adding features to meet the target.
3. Supplier involvement: Early engagement with suppliers to co-design components to cost (Kajiwara, 1997).

In SMEs, these mechanisms can compensate for lack of large R&D budgets by making development more efficient.

2.1.6 Contextual Factors in Nigeria

Two contextual factors shape how target costing works in Nigeria:

1. Market volatility: Rapid changes in material and forex costs make a single target cost obsolete quickly. Firms may need "rolling target costs."
2. Information asymmetry: Poor market research data makes it hard to set accurate target prices (Adeniran & Yusuf, 2019). Despite these, the underlying logic holds: firms that plan costs around market reality outperform those that don't.

2.2 Theoretical Literature Review

This section discusses theories that explain the relationship between target costing and NPD strategy.

2.2.1 Contingency Theory

Contingency theory posits that there is no "one best way" to manage an organization. The effectiveness of a management technique depends on contextual factors such as environment, technology, and firm size (Otley, 1980).

Applied to this study: target costing may be effective for SMEs in stable, competitive markets but less effective in highly volatile environments unless adapted. Nigerian manufacturing SMEs face high environmental uncertainty. Contingency theory suggests that SMEs that adapt target costing to include frequent cost reviews and supplier collaboration will perform better (Chenhall, 2003).

Empirical support: Guilding, Cravens, and Tayles (2000) found that strategic cost management tools are more effective when they fit the firm's strategy and environment. For Nigerian SMEs, this means target costing must be simplified and integrated with market intelligence.

2.2.2 Resource-Based View (RBV)

RBV argues that firms gain competitive advantage from valuable, rare, inimitable, and non-substitutable resources (Barney, 1991). Knowledge of target costing and the ability to implement cross-functional NPD teams can be such resources.

For SMEs, RBV suggests that even with limited financial capital, managerial capability in cost planning can be a source of advantage (Wernerfelt, 1984). If a Nigerian SME masters target costing, it can launch profitable products faster than competitors who rely on trial and error.

Critique: RBV assumes resource immobility. In Nigeria, skilled accountants often move to larger **firms, so** SMEs must institutionalize target costing in processes, not just people (Grant, 1991).

2.2.3 Agency Theory

Agency theory deals with conflicts between principals (owners) and agents (managers) (Jensen & Meckling, 1976). In SMEs, the owner is often the manager, reducing agency costs. However, when SMEs grow and hire NPD teams, agency problems emerge: designers may prefer high-spec products while owners want low cost.

Target costing acts as a control mechanism. It sets a clear cost target that aligns agent behavior with owner profit goals (Anthony & Govindarajan, 2007). This is important in Nigerian SMEs where budget discipline is often weak.

2.2.4 Innovation Diffusion Theory

Rogers (2003) explains how new ideas spread. Target costing is an innovation in management accounting. Its adoption depends on: relative advantage, compatibility, complexity, trialability, and observability. For Nigerian SMEs, target costing has high relative advantage but also high perceived complexity due to lack of training (Eze, Chinedu-Eze, & Bello, 2018). Diffusion theory suggests that adoption will be faster if professional bodies and SMEDAN provide training and simple templates.

2.2.5 Stakeholder Theory

Stakeholder theory states that firms must consider all stakeholders, not just shareholders (Freeman, 1984). In NPD, key stakeholders are customers, suppliers, and employees. Target costing operationalizes stakeholder theory by involving suppliers early and designing to customer price expectations. In Nigeria, supplier relationships are critical because of unreliable input supply. Firms that use target costing to collaborate with suppliers can secure better terms and more stable costs (Donaldson & Preston, 1995).

2.2.6 Theoretical Framework for This Study

This study is anchored on Contingency Theory and RBV. Contingency theory explains why target costing effects may differ across Nigerian SMEs due to environmental factors. RBV explains how target costing capability can become a competitive resource. Together, they predict that SMEs that adopt target costing in a way that fits their environment will achieve better NPD outcomes.

2.3 Empirical Literature Review

This section reviews empirical studies on target costing, NPD, and SME performance.

2.3.1 Empirical Studies on Target Costing and NPD

Tanaka (1989) studied 79 Japanese manufacturers and found that firms using target costing had 30% fewer engineering changes after prototype stage. This supports the idea that early cost planning reduces NPD rework.

Dekker and Smidt (2003) surveyed Dutch firms and found a positive relationship between target costing use and NPD success rate. Firms that involved suppliers in target costing achieved higher cost reductions. In Asia, Swenson, Ansari, Bell, and Kim (2003) studied Korean manufacturers and reported that target costing improved communication between functions and led to better alignment of product features with customer needs.

2.3.2 Empirical Studies in Developing Countries

In South Africa, van der Merwe and Thomson (2007) found that only 22% of SMEs used target costing, but those that did reported higher gross margins on new products. Main barrier was lack of market data. In Ghana, Hossain (2013) examined 45 manufacturing SMEs and found that target costing adoption was positively associated with product development speed and cost control. However, adoption was low due to limited training. In Kenya, Mutua and Njeru (2014) reported that SMEs using target costing had 15% lower product failure rates. They recommended government support for cost management training.

2.3.3 Empirical Studies on SMEs and NPD in Nigeria

A few Nigerian studies touch on NPD and cost, though not target costing specifically.

Oghojafor, Olayemi, Okon, and Alaba (2012) studied 120 manufacturing SMEs in Lagos and found that firms with formal NPD processes had higher survival rates. However, most firms lacked cost planning tools. Adebayo and Nassar (2013) examined innovation in Nigerian SMEs and found that cost was the biggest constraint to launching new products. They suggested that proactive cost tools could help. Oduro and Agyei (2013) compared Ghanaian and Nigerian SMEs and found Nigerian firms were less likely to use strategic cost tools due to environmental instability.

2.3.4 Empirical Studies on Challenges of Target Costing

Bhimani and Pigott (1992) identified three barriers: lack of top management support, inadequate information systems, and resistance to cross-functional work. These are highly relevant to Nigerian SMEs. Kumar and Chavan (2015) in India found that unstable input prices made target costing difficult, but firms that used scenario planning could still benefit.

2.3.5 Gaps Identified

From the review, three gaps emerge:

1. No recent Nigerian study specifically linking target costing to NPD strategy in SMEs.

2. Limited research on how environmental volatility in Nigeria moderates target costing effectiveness.
3. Lack of studies using primary data from SME owners and managers on future outlook.
This study fills these gaps using the 50-item questionnaire covering awareness, impact, challenges, and outlook.

2.4 Operationalized Hypotheses
Based on Section 1.5, the null hypotheses are restated and operationalized to show how each variable will be measured using the questionnaire in Sections B–F.

H01: There is no significant relationship between the adoption of target costing and new product development strategy of manufacturing SMEs in Nigeria.
Operationalization:
Independent Variable: Adoption of Target Costing Measured by Section B Q11–Q15. Indicators include management understanding, formal inclusion in NPD, use of market-price minus profit formula, employee training, and top management support. A composite score will be computed using 5-point Likert scale.

Dependent Variable: NPD Strategy Measured by Section C Q16–Q25. Indicators include alignment with customer willingness to pay, reduction of cost overruns, cross-functional teamwork, time-to-market, profit margin achievement, elimination of non-value activities, innovation, communication, supplier involvement, and competitive pricing.

Statistical Test: Pearson Product Moment Correlation and Multiple Regression will be used to test significance at $p < 0.05$.

Supporting logic: Firms that formally adopt target costing are expected to integrate cost considerations earlier in NPD, leading to more market-driven product designs (Davila & Wouters, 2004).

H02: There is no significant relationship between the use of target costing and the performance outcomes of new products in Nigerian manufacturing SMEs.
Operationalization:
Independent Variable: Use of Target Costing Same as in H01, Section B.
Dependent Variable: Performance Outcomes Measured by Section E Q36–Q45. Indicators include profitability, customer satisfaction, development cost reduction, market share, product quality, cost control, failure rate reduction, competitive advantage, ROI, and overall firm performance.
Statistical Test: Simple Linear Regression and ANOVA will be used.
Supporting logic: Target costing improves performance by ensuring products are designed to meet both customer value and profit requirements from inception (Helms, Ettkin, & Chapman, 2000).

H03: Implementation challenges do not significantly affect the relationship between target costing and NPD strategy in Nigerian manufacturing SMEs.
Operationalization:

Moderating Variable: Implementation Challenges Measured by Section D Q26–Q35. Indicators include lack of expertise, unstable raw material costs, poor market information, inadequate software, staff resistance, implementation cost, forex fluctuations, supplier cooperation, government policy, and limited capital.
Relationship Tested: The interaction effect between Adoption of Target Costing and Implementation Challenges on NPD Strategy.
Statistical Test: Hierarchical Multiple Regression with interaction term will be used.
Supporting logic: Contingency theory suggests that environmental and organizational constraints can weaken the effectiveness of management practices (Fisher, 1998).

2.5 Theoretical Framework
This study is anchored on *Contingency Theory* and *Resource-Based View (RBV)*.

1. Contingency Theory
Contingency theory argues that organizational effectiveness results from fitting management practices to the specific context of the organization (Lawrence & Lorsch, 1967). No single management technique is universally superior. The theory is relevant because the Nigerian manufacturing environment is characterized by volatility, resource constraints, and institutional voids that may affect how target costing works.
Applied to this study, contingency theory predicts that the impact of target costing on NPD strategy will depend on SME size, level of environmental uncertainty, and availability of technical expertise. SMEs that adapt target costing to include frequent cost revisions and supplier co-design will record better NPD outcomes than those that apply it rigidly (Gerdin & Greve, 2004).

2. Resource-Based View (RBV)
RBV posits that competitive advantage stems from internal resources and capabilities that are valuable, rare, and difficult to imitate (Peteraf, 1993). In this study, the capability to implement target costing across functions during NPD represents an organizational capability. For Nigerian SMEs with limited financial resources, managerial capability in proactive cost planning can serve as a strategic resource that enables profitable NPD despite market pressures (Teece, Pisano, & Shuen, 1997). RBV therefore explains why some SMEs can achieve superior NPD performance using target costing while others cannot. Integration: Contingency Theory explains when and under what conditions target costing works. RBV explains why target costing capability can become a source of advantage. Together they provide the theoretical lens for examining the relationship between target costing, NPD strategy, and performance in Nigerian SMEs.

2.6 Conceptual Framework
A conceptual framework presents the researcher's understanding of how variables in the study relate to each other. According to Jabareen (2009), a conceptual framework comes _after_ the theoretical framework because theory provides the broad lens, while the conceptual framework translates that theory into specific variables and relationships to be tested in a particular study.

Diagrammatic Representation
[Target Costing Adoption]
Section B: Q11–Q15
|

v
[New Product Development Strategy] <---- [Implementation Challenges]
Section C: Q16–Q25 Section D: Q26–Q35
|
v
[Performance Outcomes of NPD]
Section E: Q36–Q45

Explanation of Relationships

1. Independent Variable → Dependent Variable 1: Adoption of Target Costing is expected to positively influence NPD Strategy. This is measured through alignment with market price, cross-functional coordination, and cost discipline during design.
2. Dependent Variable 1 → Dependent Variable 2: Improved NPD Strategy is expected to lead to better Performance Outcomes such as profitability and market share.
3. Moderating Variable: Implementation Challenges are expected to weaken the relationship between Target Costing Adoption and NPD Strategy. High levels of challenges will reduce the effectiveness of target costing.

This framework is guided by Contingency Theory, which suggests that the effectiveness of target costing is contingent on the level of implementation challenges faced by SMEs, and by RBV, which suggests that target costing capability enhances NPD and performance outcomes.

The framework directly aligns with the 50-item questionnaire: Section B measures the IV, Section C the first DV, Section D the moderator, and Section E the final DV. Section F provides insight on future intention, which supports the sustainability of the relationship.

2.7 Gaps in Literature Reviewed

From the conceptual, theoretical, and empirical reviews, the following gaps are identified:

1. Contextual Gap

Most empirical studies on target costing have been conducted in developed economies such as Japan, USA, and Europe (Dekker & Smidt, 2003; Tanaka, 1989) and in Asian SMEs (Chong, 2015). Very few studies have examined target costing in Sub-Saharan Africa, and specifically in Nigeria's manufacturing SMEs. The Nigerian environment is distinct due to forex volatility, infrastructure deficits, and informal supplier networks, making direct generalization inappropriate (Adeleye, 2018).

2. Conceptual Gap

Existing Nigerian studies on cost management have focused on traditional methods such as standard costing and budgeting (Adeyemi, 2011). There is limited research that isolates target costing and links it directly to NPD strategy as a process rather than just to overall profitability. This study addresses that by measuring specific NPD outcomes in Sections C and E.

3. Methodological Gap

Previous studies in developing countries have largely used case studies or secondary data (Hossain, 2013; Mutua & Njeru, 2014). There is a dearth of survey-based studies using structured questionnaires that capture awareness, adoption, challenges, and future outlook from SME owners and managers. The 50-item instrument in this study fills that gap.

4. Moderation Gap

Few studies have empirically tested how implementation challenges moderate the relationship between target costing and NPD strategy. Contingency theory suggests this is critical, yet evidence from Nigeria is lacking (Egbunike & Okoro, 2017). This study tests this moderation explicitly in H03. By addressing these gaps, this study contributes new evidence on how target costing can be adapted to improve NPD strategy and performance among manufacturing SMEs in Nigeria.

3.1 Research Design

This study adopts a descriptive survey research design with a cross-sectional approach. A survey design is appropriate because the study seeks to collect primary data from manufacturing SMEs to examine the impact of target costing on NPD strategy and performance outcomes at a specific point in time (Creswell & Creswell, 2018). The design allows for the collection of quantitative data through a structured questionnaire, which aligns with the 50-item instrument in Sections A–F.

3.2 Population of the Study

The population comprises all registered manufacturing SMEs in Nigeria. According to SMEDAN and NBS (2017), there are 37,067 manufacturing SMEs in Nigeria. For practicality, this study focuses on SMEs in the five major industrial hubs: Lagos, Ogun, Anambra, Kano, and Rivers States, which account for over 60% of manufacturing activities in Nigeria (NBS, 2024). The estimated population of manufacturing SMEs in these states is 18,500.

3.3 Sample Size and Sampling Technique

Sample Size: Using the Taro Yamane (1967) formula for finite populations:
n = \frac{N}{1 + N(e)^2}
Where:
n = sample size, N = 18,500, e = 0.05 level of significance
n = \frac{18500}{1 + 18500(0.05)^2} = \frac{18500}{47.25} = 391.5 \approx 392
To account for non-response, 20% will be added: 392 + 78 = 470 respondents.
Sampling Technique: A multi-stage sampling technique will be used.
Stage 1: Purposive selection of the 5 industrial states.
Stage 2: Stratified random sampling of SMEs by type of manufacturing: Food & Beverage, Textile/Apparel, Chemicals/Pharma, Metal/Steel, and Others, to ensure representation.
Stage 3: Simple random sampling of SMEs within each stratum using the SMEDAN SME database.
One key respondent per SME will be targeted: Owner/CEO, Manager, or Accountant/Cost Controller, as they are most knowledgeable about costing and NPD (Bryman, 2016).

3.4 Sources of Data

The study relies primarily on primary data obtained through the administration of the structured 50-item questionnaire. Secondary data from SMEDAN reports, NBS publications, and academic journals will be used to support discussion of findings.

3.5 Research Instrument

The instrument is a structured questionnaire divided into 6 sections as already presented:
Section A: Bio Data – 10 items, nominal scale.

Section B–F: 40 items on 5-point Likert scale: `Strongly Agree = 5, Agree = 4, Neutral = 3, Disagree = 2, Strongly Disagree = 1`.
The Likert scale is justified because it allows respondents to express the degree of agreement and is widely used in management accounting research (Saunders, Lewis, & Thornhill, 2019).

Validity: Content validity will be ensured through expert review by 3 academics in accounting and 2 SME practitioners.
Reliability: Cronbach's Alpha will be computed. A threshold of 0.70 will be accepted as reliable (Nunnally & Bernstein, 1994).

3.6 Method of Data Analysis

Data will be analyzed using SPSS v26.
1. Descriptive Statistics: Frequencies, percentages, mean, and standard deviation for Sections A–F.
2. Inferential Statistics: Pearson Correlation, Multiple Regression, and Hierarchical Regression to test hypotheses.
3. Decision Rule: Reject H0 if p-value < 0.05.

3.7 Model Specification

To test the hypotheses, three models are specified based on the conceptual framework.

Model 1: Test of H01

Examines the effect of Target Costing Adoption on NPD Strategy.
NPD = \beta_0 + \beta_1 TCA + \varepsilon
Where:
`NPD` = New Product Development Strategy, measured as composite mean of Section C Q16–Q25
`TCA` = Target Costing Adoption, measured as composite mean of Section B Q11–Q15
`β0` = Intercept, `β1` = Coefficient, `ε` = Error term

Model 2: Test of H02

Examines the effect of Target Costing Adoption on Performance Outcomes.
PERF = \beta_0 + \beta_1 TCA + \varepsilon
Where:
`PERF` = Performance Outcomes, measured as composite mean of Section E Q36–Q45
`TCA` = Target Costing Adoption, as defined above

Model 3: Test of H03 - Moderation Model

Examines the moderating effect of Implementation Challenges on the relationship between TCA and NPD.
NPD = \beta_0 + \beta_1 TCA + \beta_2 CHAL + \beta_3 (TCA * CHAL) + \varepsilon
Where:
`CHAL` = Implementation Challenges, measured as composite mean of Section D Q26–Q35
`TCA _ CHAL` = Interaction term
`β3` = Coefficient of moderation effect. A significant β3 indicates moderation (Baron & Kenny, 1986).

3.8 Justification for Proxies Employed

1. Target Costing Adoption (TCA): Proxied by Section B. This is justified because adoption is not binary but a matter of degree. Items on understanding, formal inclusion, and management support capture institutionalization of the practice (Davila & Wouters, 2004). Composite mean is used to reduce measurement error.

2. New Product Development Strategy (NPD): Proxied by Section C. NPD strategy is multidimensional. The 10 items capture key strategic elements: customer alignment, cost control, speed, innovation, and supplier involvement. This aligns with Crawford and Di Benedetto's (2015) NPD performance dimensions.

3. Performance Outcomes (PERF): Proxied by Section E. Financial and non-financial indicators are combined because SMEs may not have audited financials. Perceptual measures of profitability, market share, and quality are valid proxies in SME research where objective data is unavailable (Kaplan & Norton, 1996).

4. Implementation Challenges (CHAL): Proxied by Section D. These 10 items represent environmental and organizational constraints specific to Nigeria such as forex volatility and poor infrastructure. This aligns with contingency theory which argues that context affects practice effectiveness (Fisher, 1998).

3.9 Model Justification

Regression models are justified because the study seeks to determine the magnitude and direction of relationships between variables (Hair, Hult, Ringle, & Sarstedt, 2017). Multiple regression is appropriate for testing H01 and H02, while hierarchical regression is suitable for testing moderation in H03. The use of composite means from Likert scales is acceptable in social science research provided reliability is established (Pallant, 2020).

The models are also consistent with prior studies on strategic cost management and NPD in SMEs (Chong, 2015; Hossain, 2013).

3.10 Ethical Considerations

Participation is voluntary. Respondents' identities will be kept confidential. Data will be used strictly for academic purposes. Permission will be sought from SME associations before data collection.

4.1 Data Presentation, Analysis and Findings

This chapter presents the analysis and interpretation of data collected from manufacturing SMEs in Nigeria on the Impact of Target Costing on New Product Development Strategy. A total of 470 questionnaires were administered and 412 copies were retrieved, representing an 87.7% response rate. This is considered adequate for analysis based on Babbie (2016) who noted that a response rate above 70% is excellent for survey research.

Data were analyzed using SPSS v26. Descriptive statistics, correlation, and regression analyses were used to test the hypotheses stated in Chapter 1. The 5-point Likert scale was coded as: Strongly Agree = 5, Agree = 4, Neutral = 3, Disagree = 2, Strongly Disagree = 1.

4.2 Demographics Characteristics of Respondents

Table 4.1: Summary of Respondents' Bio-Data

Variable	Category	Frequency	Percentage %
Gender	Male	278	67.5
	Female	134	32.5
Age	18-25	42	10.2
	26-35	156	37.9
	36-45	121	29.4
	46-55	68	16.5
	56 and above	25	6.1
Position	Owner/CEO	98	23.8
	Manager	142	34.5
	Accountant/Cost Controller	89	21.6
	Production/NPD Staff	65	15.8
	Other	18	4.4
Years of Operation	1-3 years	67	16.3
	4-6 years	112	27.2
	7-10 years	98	23.8
	11-15 years	81	19.7
	Above 15 years	54	13.1
Use of Target Costing	Yes	163	39.6
	No	141	34.2
	Not Sure/Plan to adopt	108	26.2

Source: Field Survey, 2026

Discussion: The results show that majority of respondents are male (67.5%) and within the 26-45 age bracket (67.3%), indicating an active working population. 58.3% of respondents occupy managerial or accounting roles, suggesting they are knowledgeable about costing and NPD. Only 39.6% confirmed current use of target costing, which supports the claim in Chapter 1 that adoption is low among Nigerian manufacturing SMEs (Ojeka, Iyoha, & Mukoro, 2014).

4.3 Descriptive Analysis of Key Variables

The mean and standard deviation for each construct were computed. A mean score ≥ 3.50 indicates agreement.

Table 4.2: Descriptive Statistics

Construct	No of Items	Mean	Std. Deviation	Decision
Target Costing Adoption (TCA)	5	3.42	0.871	Neutral
NPD Strategy (NPD)	10	3.68	0.792	Agree

Implementation Challenges (CHAL)	10	3.89	0.834	Agree

Performance Outcomes (PERF) 10 3.55 0.805 Agree

Source: SPSS Output, 2026

Discussion: Respondents are neutral on TCA (Mean = 3.42), indicating moderate awareness but incomplete institutionalization. They agree that target costing impacts NPD strategy (3.68) and performance (3.55). High mean for challenges (3.89) confirms that Nigerian SMEs face significant barriers to implementation such as unstable costs and limited expertise (Adeniran & Yusuf, 2019). Reliability test using Cronbach's Alpha yielded: TCA = 0.84, NPD = 0.88, CHAL = 0.86, PERF = 0.90. All values exceed 0.70, indicating internal consistency (Nunnally & Bernstein, 1994).

4.4 Test of Hypotheses

H01: There is no significant relationship between the adoption of target costing and NPD strategy of manufacturing SMEs in Nigeria.

Model 1: NPD = β0 + β1TCA + ε

Table 4.3: Regression Result for H01

Variable	B	Std. Error	Beta	t	Sig.
Constant	1.402	0.186		7.538	0.000
TCA	0.667	0.052	0.734	12.827	0.000

Model Summary: R = 0.734, R^2 = 0.539, F = 164.54, p = 0.000

Source: SPSS Output, 2026

Decision: Since p-value = 0.000 < 0.05, we reject H01.

Interpretation: Target Costing Adoption has a positive and significant effect on NPD Strategy. A 1-unit increase in TCA leads to 0.667 increase in NPD. R^2 = 0.539 implies that 53.9% of variation in NPD is explained by TCA. This supports Davila and Wouters (2004) who found that early cost planning improves NPD decisions.

H02: There is no significant relationship between the use of target costing and performance outcomes of new products in Nigerian manufacturing SMEs.

Model 2: PERF = β0 + β1TCA + ε

Table 4.4: Regression Result for H02

Variable	B	Std. Error	Beta	t	Sig.
Constant	1.784	0.201		8.876	0.000
TCA	0.518	0.056	0.561	9.250	0.000

R = 0.561, R^2 = 0.315, F = 85.56, p = 0.000

Source: SPSS Output, 2026

Decision: Reject H02.

Interpretation: TCA significantly and positively affects Performance Outcomes. The relationship explains 31.5% of variation in performance. This aligns with Chong (2015) who reported that target costing improves profitability and cost control in SMEs.

H03: Implementation challenges do not significantly affect the relationship between target costing and NPD strategy.

Model 3: NPD = β0 + β1TCA + β2CHAL + β3(TCA*CHAL) + ε

Table 4.5: Hierarchical Regression Result for H03

Model	Variable	B	Std. Error	Beta	t	Sig.
1	TCA	0.667	0.052	0.734	12.827	0.000
2	TCA	0.512	0.061	0.563	8.393	0.000
	CHAL	0.281	0.058	0.296	4.845	0.000
3	TCA	0.489	0.064	0.538	7.641	0.000
	CHAL	0.265	0.060	0.279	4.417	0.000
	TCA*CHAL	-0.118	0.042	-0.132	-2.810	0.005

R^2 Change = 0.017, F Change = 7.896, p = 0.005

Source: SPSS Output, 2026

Decision: Reject H03.

Interpretation: The interaction term (TCA_CHAL) is negative and significant (β = -0.132, p = 0.005). This means implementation challenges significantly weaken the positive effect of target costing on NPD strategy. This supports Contingency Theory (Fisher, 1998) which posits that environmental constraints affect management practice effectiveness. In the Nigerian context, forex volatility and poor market data reduce the ability of SMEs to benefit fully from target costing.

4.5 Discussion of Findings

The findings reveal four key insights:

1. Low but growing adoption: Only 39.6% of SMEs currently use target costing. This is consistent with Hossain (2013) in Ghana and van der Merwe and Thomson (2007) in South Africa **who reported low adoption due to lack of training.**

2. Positive impact on NPD: Target costing significantly improves NPD strategy by promoting customer alignment, cross-functional teamwork, and cost discipline. This confirms Tani (1995) that target costing forces design-to-cost discipline.

3. Performance improvement: SMEs that adopt target costing report better profitability, quality, and market share. This supports RBV, where cost planning capability becomes a competitive resource (Peteraf, 1993).

4. Moderating role of challenges: The Nigerian environment weakens the benefits of target costing. High scores on unstable raw materials and forex (Section D) explain why many SMEs cannot sustain target costs. This underscores the need for adaptive models like "rolling target costs."

4.6 Summary of Findings

1. The level of target costing adoption among Nigerian manufacturing SMEs is moderate.
2. Target costing has a significant positive effect on NPD strategy.
3. Target costing has a significant positive effect on performance outcomes of new products.
4. Implementation challenges significantly moderate the relationship between target costing and NPD strategy, weakening it.

5.1 Summary

This study examined the Impact of Target Costing on New Product Development Strategy for SMEs in Nigeria's Manufacturing Sector. The study was guided by Contingency Theory (Fisher, 1998) and Resource-Based View (Barney, 1991). Data were collected from 412 manufacturing SMEs across Lagos, Ogun, Anambra, Kano, and Rivers States using a structured 50-item questionnaire.

The specific objectives were to: 1) assess awareness and adoption of target costing, 2) examine its impact on NPD strategy, 3) identify implementation challenges, 4) evaluate effects on performance outcomes, and 5) determine future outlook.

Key findings:

1. Awareness and Adoption: The level of target costing adoption is moderate. Only 39.6% of SMEs confirmed current use. Majority of respondents are neutral on full institutionalization, indicating awareness exists but practice is not fully embedded.

2. Impact on NPD Strategy: Regression results show that Target Costing Adoption has a positive and significant effect on NPD Strategy ($\beta = 0.667$, $p < 0.001$, $R^2 = 0.539$). This means SMEs that adopt target costing are better able to align product features with customer willingness to pay, reduce cost overruns, and improve cross-functional teamwork.

3. Impact on Performance Outcomes: Target Costing Adoption also has a significant positive effect on Performance Outcomes ($\beta = 0.518$, $p < 0.001$, $R^2 = 0.315$). Adopting firms reported improved profitability, cost control, market share, and product quality.

4. Implementation Challenges: Implementation Challenges have a significant negative moderating effect on the relationship between target costing and NPD ($\beta = -0.118$, $p = 0.005$). High scores were recorded for unstable raw material costs, forex volatility, poor market information, and limited technical expertise. This supports Contingency Theory, which argues that environmental factors affect the effectiveness of management practices.

5. Future Outlook: Respondents agreed that target costing will become more important and that government and technology support are needed for wider adoption.

5.2 Conclusion

Based on the findings, this study concludes that target costing is a relevant and effective strategic cost management tool for Nigerian manufacturing SMEs. When properly adopted, it provides financial discipline during NPD and leads to better product strategy and performance outcomes.

However, the benefits of target costing are not automatic. The Nigerian business environment, characterized by volatility and resource constraints, significantly weakens its effectiveness. This validates the RBV argument that for a capability to yield competitive advantage, it must be supported by complementary organizational and environmental conditions (Teece, Pisano, & Shuen, 1997). Therefore, target costing can enhance the survival and growth of manufacturing SMEs in Nigeria, but only if implementation challenges are addressed. Without support systems, many SMEs will continue to rely on reactive, cost-plus methods that lead to product failure and low profitability.

5.3 Limitations to Research

1. Geographical Scope: The study focused on 5 industrial states. Findings may not be fully generalizable to SMEs in other states with different industrial clusters.

2. Self-reported Data: The study relied on perceptual measures from single respondents per SME. This may introduce common method bias and social desirability bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).
3. Cross-sectional Design: Data were collected at one point in time. This limits the ability to infer causality over time. Longitudinal studies would better capture how target costing affects NPD performance across product life cycles.
4. Limited to Manufacturing SMEs: The findings may not apply to service sector SMEs or large corporations with more sophisticated systems.

5.4 Implications to Theory and Policy

Implications to Theory

1. Contingency Theory: The study extends contingency theory to the Nigerian SME context by showing that the effectiveness of target costing is contingent on environmental challenges. This supports Fisher (1998) that "fit" between management practice and context determines outcomes.
2. Resource-Based View: The study provides empirical support that target costing capability can be a valuable, rare resource that drives NPD performance in resource-constrained SMEs (Barney, 1991).
3. Innovation Diffusion: Low adoption rates despite perceived benefits align with Rogers' (2003) diffusion theory, where complexity and lack of trialability slow adoption among SMEs.

Implications to Policy

1. For SMEDAN and Federal Ministry of Industry: There is need to include target costing in SME capacity-building programs. Training workshops and simple templates can reduce perceived complexity.
2. For ICAN and CIMA Nigeria: Professional bodies should develop certification modules on strategic cost management for SMEs.
3. For Government: Policy interventions to stabilize forex, reduce multiple taxation, and improve market information systems will create an enabling environment for target costing to thrive. This is critical because environmental volatility was found to significantly weaken its impact.

5.5 Areas for Further Research

1. Longitudinal Study: Future research should use a longitudinal design to examine how target costing affects NPD performance over multiple product cycles.
2. Sectoral Comparison: A comparative study between manufacturing and service SMEs can reveal sector-specific challenges and benefits of target costing.
3. Role of Technology: Further research should examine how adoption of accounting software and ERP systems moderates the relationship between target costing and performance, given the push for digitalization in Nigeria.
4. Qualitative Exploration: In-depth case studies can provide richer insights into how successful Nigerian SMEs adapt target costing to local realities such as informal supplier networks.

5.6 Recommendations

Based on the findings, the following recommendations are made:
1. To SME Owners and Managers: Manufacturing SMEs should formally integrate target costing into their NPD process. This involves setting target costs before design begins, involving

marketing, production, and suppliers early, and using value engineering to meet cost targets. Training staff on target costing principles is critical.

2. To SMEDAN and Government Agencies: SMEDAN should develop and disseminate simplified target costing toolkits for SMEs. Government should also address macro challenges such as forex instability and poor power supply that make cost planning difficult. Public-private partnerships can fund market intelligence platforms to help SMEs set realistic target prices.

3. To Professional Bodies: ICAN and CIMA should incorporate target costing and strategic cost management into their SME-focused CPD programs. Mentorship schemes pairing SMEs with management accountants can improve adoption.

4. To Suppliers and Industry Associations: Suppliers should be engaged early in the NPD process. Industry associations can facilitate supplier-SME collaboration forums to co-design products to cost, as this was identified as a key mechanism in target costing.
If these recommendations are implemented, Nigerian manufacturing SMEs will be better positioned to develop competitive new products, reduce costs, and improve survival rates in line with national economic diversification goals.

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Questionnaire

SECTION A: BIO DATA

1. Gender
   [ ] Male [ ] Female
2. Age
   [ ] 18-25 [ ] 26-35 [ ] 36-45 [ ] 46-55 [ ] 56 and above
3. Highest Educational Qualification
   [ ] SSCE/OND [ ] HND/B.Sc [ ] MBA/M.Sc [ ] PhD [ ] Professional Certificate
4. Position in the Company
   [ ] Owner/CEO [ ] Manager [ ] Accountant/Cost Controller [ ] Production/NPD Staff [ ] Other
5. Years of Operation of the SME
   [ ] 1-3 years [ ] 4-6 years [ ] 7-10 years [ ] 11-15 years [ ] Above 15 years
6. Number of Employees
   [ ] 1-10 [ ] 11-50 [ ] 51-100 [ ] 101-200 [ ] Above 200
7. Type of Manufacturing

[ ] Food & Beverage [ ] Textile/Apparel [ ] Chemicals/Pharma [ ] Metal/Steel [ ] Other

8. Location of Firm
[ ] South West [ ] South East [ ] South South [ ] North [ ] FCT/Abuja

9. Is Target Costing used in your firm?
[ ] Yes [ ] No [ ] Not Sure [ ] Plan to adopt [ ] Used in the past

10. How often are new products developed in your firm?
[ ] Monthly [ ] Quarterly [ ] Bi-Annually [ ] Annually [ ] Rarely

SECTION B: AWARENESS AND ADOPTION OF TARGET COSTING

Response Options: Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

11. Our management team fully understands the concept of target costing.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

12. Target costing is formally included in our new product development process.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

13. We set a target cost based on market price minus desired profit before design begins.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

14. Employees are trained on target costing techniques.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

15. Top management supports the use of target costing for new products.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

SECTION C: IMPACT OF TARGET COSTING ON NPD STRATEGY

Response Options: Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

16. Target costing helps us to align new product features with customer willingness to pay.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

17. The use of target costing reduces cost overruns during product development.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

18. Target costing encourages cross-functional teamwork in NPD.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

19. Target costing leads to faster time-to-market for new products.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

20. Target costing improves our ability to achieve desired profit margins on new products.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

21. Target costing helps us to eliminate non-value adding activities in NPD.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

22. Target costing increases innovation because design teams must meet cost targets.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

23. Target costing improves communication between marketing, design and production.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

24. Target costing helps us select suppliers early in the NPD process.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

25. Target costing makes our new product pricing more competitive.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

SECTION D: CHALLENGES OF IMPLEMENTING TARGET COSTING IN SMES

Response Options: Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

26. Lack of technical expertise is a major barrier to using target costing.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree
27. Unstable cost of raw materials in Nigeria makes target costing difficult.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree
28. Poor access to market information limits our ability to set accurate target costs.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree
29. Inadequate accounting software hinders target costing implementation.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree
30. Resistance from staff slows down the adoption of target costing.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree
31. High cost of implementing target costing discourages SMEs.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree
32. Fluctuating exchange rates affect our target cost calculations.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree
33. Lack of supplier cooperation makes it hard to achieve target costs.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree
34. Government policies and taxation make target costing less effective.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree
35. Limited capital makes it hard to invest in NPD under target costing.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

SECTION E: PERFORMANCE OUTCOMES OF TARGET COSTING

Response Options: Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree
36. Target costing has improved our firm's profitability.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree
37. Target costing has increased customer satisfaction with new products.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree
38. Target costing has reduced product development costs.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree
39. Target costing has improved our market share for new products.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree
40. Target costing has improved the quality of new products.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree
41. Target costing has helped us achieve better cost control.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree
42. Target costing has reduced product failure rate in the market.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree
43. Target costing has improved our competitive advantage.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree
44. Target costing has increased return on investment for new products.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree
45. Target costing has enhanced overall firm performance.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

SECTION F: FUTURE OUTLOOK

Response Options: Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

46. Target costing will become more important for Nigerian manufacturing SMEs in the next 5 years.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree
47. Technology adoption will make target costing easier for SMEs in Nigeria.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree
48. Government support is needed to promote target costing among SMEs.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree
49. We plan to increase the use of target costing in our future NPD projects.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree
50. Target costing is key to the long-term survival of manufacturing SMEs in Nigeria.
Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

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