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# AN EMPIRICAL ASSESSMENT OF THE KOLYADA'S METHODOLOGY OF BUSINESS MODELING AND STRATEGIC PLANNING IN FORECASTING BUSINESS MODEL EFFECTIVENESS IN NIGERIA'S FURNITURE MANUFACTURING INDUSTRY

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## ABSTRACT

***This article provides a proof of the applicability of Andrey Kolyada's universal methodology of business modeling and strategic planning as a predictive tool for assessing business model effectiveness. The study empirically evaluates the methodology within the context of Nigeria's manufacturing industry with the aim of determining its robustness and forecasting accuracy thereby assessing its predictive capacity in an emerging economy. Using Wood Factory Limited in Nigeria as a case study the research employed the Market Volume and Complexity (MVC-1) framework to model market structure. The findings demonstrate that Kolyada's methodology offers a robust, quantitative alternative to conventional qualitative strategic frameworks by enabling forward looking evaluation of business models under conditions of uncertainty. The study further shows that even partial application of the methodology delivers reliable insights and supports effective market positioning. The uniqueness of this study lies in its empirical validation of the methodology outside its CIS domain and extending its relevance to an emerging African manufacturing context. By treating business models as quantifiable and forecastable constructs the study contributes to strategic management theory and provides managers with a disciplined, data driven framework for navigating competitive and volatile markets.***

**KEYWORDS:** Kolyada Universal Methodology; Business Modeling; Furniture Manufacturing Industry; Market Clustering; Scenario Based Forecasting.

## 1. INTRODUCTION

Nigeria's furniture manufacturing industry is experiencing rapid transformation which is propelled by urbanisation, a growing middle class, and increased real estate investment. According to Furniture Expo West Africa (FEWA), the sector was valued at over $2 billion in late 2024, with projections indicating potential growth of up to 300% within three years, reaching approximately $6 billion. Other estimates place the industry's value at $5 billion in 2023, with an expected compound annual growth rate (CAGR) of 12.10% through 2028. The smart furniture segment is also expanding with market value projected to reach $23.9 million by 2030. This growth is driven by technology adoption and rising sustainability awareness among Nigerian consumers as highlighted in the FEWA report. Key trends reshaping the industry include digital integration, customization and luxury offerings, sustainable practices, local manufacturing, smart living solutions, and the fusion of modern design with cultural heritage. Digital platforms are increasingly central to furniture sales, with e-commerce and mobile channels gaining momentum. At the same time, demand for bespoke, premium, and environmentally responsible furniture continues to rise. As noted in the FEWA report, digital integration and luxury consumption are significantly redefining Nigeria's furniture landscape. Despite strong growth prospects, the industry faces notable challenges. Inflation and high material costs are cited by 81% of businesses as major constraints, while access to finance (33%) and logistics issues (29%) also pose significant barriers. Nevertheless, the sector remains resilient, with 90% of firms reporting positive growth with 52% experiencing moderate growth and 38% strong growth which is largely driven by commercial real estate, residential development, and increasing demand for luxury and home automation solutions. Nigeria's contribution to Africa's share of the $654 billion global home décor market continues to expand, supported by trends such as digital first consumer engagement, sustainability focused design, and renewed interest in local craftsmanship and heritage-inspired pieces. Industry exhibitions, particularly FEWA, play a vital role in brand visibility and relationship building, with 85.7% of stakeholders rating them as valuable or extremely valuable.

In an emerging economy developing industry like the Nigeria's furniture manufacturing sector which operates under conditions of high uncertainty driven by macroeconomic volatility, infrastructural deficits, regulatory instability, and intense competitive pressures heightens the strategic importance of business models that are not only well designed but also capable of delivering sustainable performance over time. Consequently, there is a growing need for structured methodologies that integrate strategic planning with business modeling and enable reliable forecasts of organizational effectiveness. However, empirical evidence on the applicability of universal strategic modeling frameworks in developing economies remains limited. The Kolyada's methodology of business modeling and strategic planning proposes a comprehensive and systemic approach that links strategic intent, value creation mechanisms, resource configuration and environmental dynamics within a unified analytical framework (Kolyada, 2024). Business model effectiveness has become a critical determinant of organizational performance in increasingly competitive business environments due to the reason that business model defines how an organization creates, delivers and captures value through the interaction of its resources, processes, customers and revenue mechanisms. An effective business model ensures strategic coherence, operational efficiency, customer relevance, and financial sustainability while an ineffective one often results in resource wastage, weak market positioning, and poor long-term performance (Leppänen, George & Alexy, 2023).

Business models often work hand in hand with business forecasting due to the reason that forecasting plays a critical role in organizational planning and decision making by enabling firms to anticipate future conditions and allocate resources effectively and it involves the systematic analysis of historical data, market trends and external factors to estimate future demand, costs and operational requirements (Ancillai et al., 2023). Forecasting is particularly important in Nigeria due to volatile market conditions and changing consumer preferences, many firms rely on informal judgment-based forecasts rather than structured analytical methods which often leads to mismatches between supply and demand, excess inventory, stockouts and increased production costs (Umoru et al., 2023). These challenges are more pronounced in sectors like furniture manufacturing where demand is influenced by seasonal trends, construction activities, income levels and design preferences. Advancements in forecasting techniques and decision support methodologies have shown that integrating data analysis with strategic planning improves organizational performance. Effective forecasting provides a foundation for evidence-based

decision making, supports long term planning and enhances competitiveness (Lehmann, 2023). Therefore, studying forecasting practices and their application within the manufacturing context is essential for improving operational efficiency, sustainability, and strategic responsiveness in dynamic business environments. Forecasting supports business modeling by using future oriented data and assumptions to estimate performance, evaluate scenarios and guide strategic decisions within the model (Agu et al., 2023).

Business models is a paramount aspect of business strategy in many developing economies which includes firms in Nigeria particularly the manufacturing sector in Nigeria that operate with loosely structured or poorly articulated business models (Omoyele et al., 2023). Emphasis is often placed on production activities rather than on the integration of value propositions, customer segments, cost structures and revenue streams. This limits the ability of firms to scale, adapt to market changes. It also hinders them not to compete effectively with imported products and with a larger and more structured enterprises. As market conditions become more volatile results to the need for systematic evaluation and improvement of business model effectiveness becomes increasingly important. The furniture manufacturing industry in Nigeria is characterized by fragmented operations, weak value propositions, low productivity and limited scalability. Many firms operate with informal or poorly defined business models leading to inefficiencies in sourcing, production, pricing and market access. Furthermore, these challenges are compounded by inconsistent demand forecasting, limited differentiation, and weak alignment between customer needs and internal capabilities (Babajide et al., 2023). As a result of this, many furniture manufacturers struggle with profitability, competitiveness and long-term sustainability. The Kolyada's methodology addresses this problem by providing a structured, systems-based approach to business modeling that clarifies value creation, identifies constraints, and aligns processes with strategic objectives. By mapping the entire business system such as customers, resources, operations, and financial flows makes the methodology facilitates organizations to design coherent, scalable, and market responsive business models, improving efficiency, profitability, and competitive positioning within the local and regional markets.

Business modeling supports strategic planning by translating strategic objectives into a structured representation of how a firm creates, delivers, and captures value, ensuring that strategic plans are both actionable and economically viable (Sadikin et al., 2023). Strategic planning in the furniture manufacturing industry in Nigeria is often weak, short-term and reactive with many firms lacking a clear strategic direction, measurable objectives and alignment between vision, resources, and execution (Areo et al., 2024). Decisions are frequently driven by immediate market pressures rather than structured analysis resulting in poor capacity planning, inconsistent product positioning, limited innovation and vulnerability to imported alternatives (Adejumo, Thompson & Basnet, 2024). This absence of robust strategic planning undermines competitiveness, growth and long-term sustainability (Olorunnisola, 2023). The Kolyada's methodology is of paramount significance as it addresses this challenge by offering a systematic framework for strategic planning that links vision, goals, constraints and operational capabilities into a coherent strategy. Through structured analysis of the business environment, internal systems, and cause and effect relationships makes the methodology to provide platform that enables furniture manufacturers to define clear strategic priorities, align resources with long term objectives and translate strategy into actionable plans. This supports more informed decision making, resilience and sustainable growth within Nigeria's furniture manufacturing sector.

Kolyada's Universal Methodology is widely considered superior to conventional business modeling and strategic planning frameworks because it addresses the fundamental limitation of many existing methods which includes their inability to reliably forecast the effectiveness of a business model under dynamic and uncertain conditions (Rodriguez & Kolyada, 2025). Conventional approaches such as SWOT analysis, the Business Model Canvas, PESTLE, or Porter's Five Forces often focus on describing existing structures or analyzing isolated aspects of a business. They provide valuable snapshots of current conditions but they fail to capture the complex interactions between internal capabilities, external market forces and managerial decisions that ultimately determine long term effectiveness. In contrast, Kolyada's methodology approaches the business model as a complex adaptive system which helps to model these interdependencies in a way that allows managers to understand how changes in one area can ripple through the entire system (Kolyada & Plekhova, 2023). Unlike descriptive frameworks, Kolyada's approach is explicitly forecast oriented which enables organizations to simulate potential

outcomes, evaluate strategic alternatives and anticipate the consequences of managerial choices before they are implemented. This forward-looking capability of the Kolyada's methodology is critical for proactive strategic planning and transforming business model design from a static exercise into a predictive decision support tool (Kolyada, 2024). Furthermore, the methodology integrates strategy and business modeling into a single coherent framework thereby ensuring that strategic objectives are directly embedded into the business model's structure and measurable in terms of their likely effectiveness. This integration eliminates the common disconnect between strategy formulation and operational execution that often undermines other approaches.

Another key strength of Kolyada's methodology lies in its combination of qualitative and quantitative analysis. While traditional frameworks often emphasize either narrative reasoning or numerical metrics but the Kolyada's methodology synthesizes both qualitative and quantitative analysis thereby allowing for a multidimensional evaluation of business model alternatives under varying scenarios (Kolyada, 2025). Its adaptability to environmental uncertainty further enhances its predictive power as it allows iterative recalibration of forecasts in response to changing market or institutional conditions. The methodology's universality ensures applicability across industries, organizational sizes, and institutional contexts thereby providing a standardized yet flexible approach that supports comparative analysis and benchmarking. Taken together, these features make Kolyada's Universal Methodology a more robust, predictive, and strategically coherent tool for modeling business performance and forecasting the effectiveness of business models than traditional descriptive or analytical methods (Kolyada & Plekhova, 2025).

Kolyada's methodology aligns closely with strategic management by providing a structured, cyclical framework that integrates market positioning, business model design, and strategic decision making to achieve and sustain competitive advantage (Kolyada, 2023). Strategic management comprises the methods and tools required to carry out organizational strategy effectively including the selection of an appropriate business model for a firm's specific market niche (Zhang & Saadé, 2025). A key problem in strategic management is the disconnect between strategy formulation and practical implementation, particularly the challenge of translating strategic goals into coherent business models and measurable outcomes. Kolyada's methodology addresses this issue by offering a structured, algorithmic approach that links market niche identification, business model design, and strategic execution within a continuous cycle, thereby improving alignment between strategic intent, operational decisions and performance outcomes. In order to address this gap, this study applies the algorithm outlined in Kolyada's methodology through a case study on business model development for a developing furniture industry. The study examines whether Kolyada's methodology can connect business models and strategy by providing a structured approach to business modeling, strategic planning, and forecasting within a niche furniture manufacturing context.

Wood Factory Limited is a privately owned furniture manufacturing company operating in Nigeria, the company produces a range of wooden furniture for residential, commercial, and institutional customers, including office furniture, household fittings, cabinets, and customized wood products. The firm operates with a structured production system that combines skilled craftsmanship with basic mechanized processes to meet diverse customer requirements. The company employs approximately 120 staffs across production, design, marketing, logistics, and administrative functions. This workforce size places Wood Factory Limited within the category of medium sized manufacturing firms in Nigeria and makes it broadly representative of indigenous furniture manufacturers operating in competitive urban markets. Despite operational experience and a stable workforce, the firm faces challenges related to workforce planning, capacity utilization, and coordination, particularly in the absence of robust demand forecasting mechanisms. In terms of market presence, Wood Factory Limited commands an estimated 16 percent share of the formal furniture manufacturing market within its primary region of operation. While the company has established a loyal customer base, its market share growth has remained modest due to intense competition from both organized manufacturers and the informal furniture sector. Strategic decisions have largely been driven by historical performance and managerial judgment rather than systematic market modeling, limiting the firm's ability to anticipate demand fluctuations and strategically expand into high value market segments. The application of Kolyada's universal methodology of business modeling and strategic planning is particularly relevant in this context. The methodology enables Wood Factory Limited to

integrate forecasting into strategic planning, allowing production levels, workforce deployment and resource allocation to be aligned with anticipated market demand. By providing a structured approach to market clustering and segmentation, the methodology supports the identification of economically attractive customer segments that offer higher growth potential and improved market share prospects.

Furthermore, Kolyada's methodology strengthens strategic positioning by aligning the firm's value proposition and unique selling attributes with forecasted consumer motives. This alignment enhances coherence between the company's operational capabilities, staff capacity and market expectations thereby improving business model effectiveness. As a case study, Wood Factory Limited provides a practical and empirically grounded context for assessing how forecasting-based business modeling can improve strategic decision making and competitive performance within Nigeria's furniture manufacturing industry. This study applies the methodology to empirically tests its capacity to forecast business model effectiveness by doing so this research contributes to the literature on strategic management and business modeling thereby offering empirical validation of a universal methodology in a manufacturing context and extending its applicability to emerging market environments.

## 2. LITERATURE REVIEW

This chapter provides a comprehensive review of the literature relevant to business modelling and the application of Kolyada's EMAS methodology. The purpose of the chapter is to critically examine theoretical perspectives, empirical findings, and methodological approaches from both classical and contemporary point of view

### *2.1. Kolyada's Methodology*

This section encapsulates Kolyada's business modeling methodology which emphasizes the multi-level nature of business models and strategic planning, was initially developed in Russia at the Eurasian Management and Administration School (EMAS Business School). Strategic management encompasses the frameworks, methods and analytical tools required to effectively formulate, implement and adjust organizational strategy including the selection and configuration of a business model appropriate to a firm's market niche (Sinnaiah, Adam & Mahadi, 2023; Graebner, Knott, Lieberman & Mitchell, 2023; Aaker & Moorman, 2023). However, much of the existing literature on business model design and strategic execution remains with gaps resulting in a limited empirical understanding of how structured strategic methodologies perform within small medium and sized manufacturing firms particularly in emerging economies. In response to this gap, the present study empirically applies the algorithm embedded in Kolyada's universal methodology of business modeling and strategic planning as this research assesses whether the methodology can effectively link business modeling and strategic planning by providing a structured and systematic approach to forecasting business model effectiveness under various conditions.

Kolyada's methodology particularly the predictive mathematical modeling component consists of an integrated set of interrelated tools and has been subject to continuous validation since its inception. After undergoing initial testing around year 2014, the business modeling and strategic planning sequence was extensively applied and evaluated during the post covid era which is from 2021 and beyond. During this period, graduate students and faculty at EMAS implemented the methodology in international firms (Kolyada, 2025). These practical applications provided empirical evidence of the methodology's forecasting accuracy and reliability as the model outputs was systematically compared with actual business outcomes and refined where deviations were identified. Kolyada views business modelling as a scientifically grounded system for designing, evaluating, and forecasting organizational effectiveness based on objective market laws and economic parameters. Unlike many scholars, Kolyada integrates market modelling, strategic planning, and performance forecasting into a unified methodology. The main criticism of Kolyada's approach is its high data intensity and methodological rigor, which may limit accessibility for small firms or underdeveloped markets, despite its superior predictive power (Kolyada, 2023).

According to Kolyada (2014), the strategic algorithm underlying the methodology operates as a continuous, iterative cycle comprising three core stages: (1) identification of the target market and definition of a viable market niche; (2) design and implementation of a business model and strategy aimed at achieving the desired competitive position within that market; and (3) strategic transition from growth oriented objectives to market retention and profit maximization through the elimination of growth related costs. This study evaluates the

applicability and forecasting capability of this algorithm within furniture manufacturing industry in Nigeria with particular attention to its relevance for enterprises operating in niche markets.

Within this broader theoretical landscape, Kolyada universal methodology of business modelling and strategic planning offers a rigorous and structured approach to understanding and forecasting business performance. Unlike many conventional business model frameworks that focus primarily on static components Kolyada's methodology conceptualizes the business model as a dynamic, multi-level system embedded within the market, industry and macroeconomic environment. According to Kolyada, a business model must be constructed on the basis of objective market laws, industry development patterns and measurable economic parameters rather than managerial intuition alone (Kolyada, 2024). This positions business modelling as a scientific process grounded in empirical analysis and logical consistency.

Kolyada's methodology emphasizes market modelling as the starting point of business model design. In this approach, the firm's business model is derived from a deep analysis of market capacity, demand structure, competitive forces and value chain dynamics. The organization is viewed as a subsystem of the market rather than an isolated entity and its effectiveness is assessed by how well its internal configuration aligns with external market realities. Through this perspective business modelling becomes a tool for achieving strategic fit and minimizing systemic inefficiencies. Furthermore, Kolyada's Universal Methodology extends the concept of business modelling into the realm of forecasting and strategic control. The methodology links business model parameters directly to financial and non-financial performance indicators enabling the prediction of future outcomes under different strategic scenarios. This predictive capacity distinguishes Kolyada's approach from descriptive frameworks such as the Business Model Canvas which primarily serve communication and visualization purposes. By incorporating quantitative modelling and scenario analysis makes Kolyada's methodology elevates business modelling to a decision support instrument capable of guiding long term strategic planning and investment decisions.

Kolyada's methodology consists of three (3) scenarios which are the realistic or main, optimistic and pessimistic scenario. These scenarios differ not only in their underlying assumptions but also in their strategic consequences. The main scenario serves as the reference point for strategic planning, the optimistic scenario highlights additional opportunities that may enhance or accelerate growth, while the pessimistic scenario identifies potential threats and constraints that could undermine organizational performance. Every of the analysis is conducted within a defined planning horizon segmented into corresponding annual periods and is based on a scenario driven framework that incorporates both "As-Is" and "To-Be" perspectives. The scenario-based approach differentiates among three alternative future states. The first is a baseline or main scenario, which reflects the most likely trajectory of market evolution and competitive dynamics. The second is an optimistic scenario, which assumes favorable external conditions such as accelerated market growth, reduced uncertainty, or the emergence of advantageous opportunities. The third is a pessimistic scenario, which accounts for adverse conditions, including declining demand, heightened risks, or unfavorable external influences.

Integrating Kolyada's methodology into business modelling allows scholars to empirically test the effectiveness of specific business model configurations within industries and markets. It provides a structured basis for hypothesis development, longitudinal analysis, and performance evaluation. Business modelling, when applied through this methodology becomes an explanatory variable capable of accounting for variations in organizational performance, resilience, and adaptability. This aligns with emerging strategic management research that treats business models as mechanisms through which strategy influences firm outcomes (Spieth, Breitenmoser & Röth, 2025; Tuboalabo et al., 2024; Dembek, Lüdeke-Freund, Rosati & Froese, 2023).

The robustness of the methodology is further supported by multiple publications in Russian peer-reviewed scientific journals which document its empirical consistency and methodological soundness (Abramchuk & Kolyada, 2024). Validation and refinement of the predictive model were conducted in two structured stages (Abramchuk, Lyashenko, & Kolyada, 2024a). The first stage involved initial calibration through the reconciliation of reverse forecasts generated by the model with actual historical data from completed periods. The second stage entailed ongoing validation through continuous comparison of forecasted indicators within the planning horizon against realized performance data. Following this period of systematic validation and iterative adjustment the methodology demonstrated a high degree of

alignment between projected forecasts and observed outcomes. The growing influence of the methodology is reflected in the recognition of Kolyada's 2023 monograph as the best business book by a Russian author in 2024. Ongoing scientific research in Russia continues to refine and extend the theoretical and methodological foundations of this approach. The methodology has also been widely applied across Russia with validation drawn from hundreds of business projects and supported by award-winning scholarly output (TEDO, 2024). Nevertheless, as with any emerging framework, the methodology possesses both strengths and contextual boundaries. A comprehensive assessment therefore necessitates a balanced evaluation that acknowledges its limitations alongside its substantive contributions.

The concept of business modelling when examined through advanced theoretical perspectives and integrated with Kolyada A.A.'s Universal Methodology emerges as a powerful analytical and strategic construct (Abramchuk, Lyashenko, & Kolyada, 2024b). It transcends simple representation and becomes a systematic process for designing, evaluating and forecasting organizational effectiveness within complex market environments. By grounding business modelling in market laws, strategic theory and empirical analysis is the reason why the Kolyada's methodology provides a robust framework for advance level research and practical strategic application particularly in volatile, competitive and emerging economies.

### *2.2. Business Modelling*

Business modelling has attracted extensive scholarly attention with differing conceptualizations reflecting disciplinary backgrounds, methodological preferences and strategic priorities. One of the earliest influential perspectives is offered by Porter though skeptical of the term "business model," implicitly frames it as the outcome of strategic positioning and value chain configuration. His critique of business models as vague substitutes for strategy has influenced later scholarly standpoint. However, Porter's approach is criticized for its rigidity and limited accommodation of innovation driven and platform-based business models (Porter, 1996). Also, Barney through the resource-based view treats business modelling as the configuration of valuable, rare, inimitable and non-substitutable resources. While this strengthens the internal logic of business models but critics argue that it downplays market forces and overemphasizes firm specific assets without adequately addressing demand uncertainty (Barney, 1991).

Chesbrough and Rosenbloom (2002), emphasize that business modelling is the heuristic logic that links technological potential to economic value. Their framework emphasizes the commercialization of innovation and the role of the business model in converting technology into market outcomes. However, this approach is criticized for being too technology centric thereby underplaying non-technological drivers such as institutional constraints, market structure, and managerial cognition (Chesbrough & Rosenbloom, 2002). Magretta (2022), conceptualizes business models as "stories" that explain how enterprises work and according to her a good business model narrates who the customer is, what they value and how the firm makes money. While this narrative framing enhances managerial understanding but it is often criticized for lacking analytical rigor and predictive capacity thereby making it less suitable for empirical testing or strategic forecasting. Johnson, Christensen, and Kagermann (2008), classified business modeling components around four elements of customer value proposition, profit formula, key resources, and key processes. This managerial clarity is useful in practice.

Osterwalder and Pigneur (2010), identified the business model canvas as a widely adopted framework for representing the rationale of how an organization creates, delivers and captures value. Their Business Model Canvas has become one of the most widely adopted frameworks in both academia and practice. Nevertheless, critics argue that the Canvas is largely static and descriptive and only offering limited guidance on causality, performance measurement and environmental dynamics. Casadesus-Masanell and Ricart applied an integrated approach of business analytics and the subject of cause and effect to effectively analyze corporate scenarios. They define business models as the set of managerial choices and their consequences. Their causal loop approach introduces analytical precision and strategic interaction. Nonetheless, it is criticized for being overly deterministic and assuming rational managerial behavior in environments characterized by bounded rationality (Casadesus-Masanell & Ricart, 2010).

Teece (2010), reframes business modelling within the theory of dynamic capabilities arguing that a business model represents the enterprise logic through which value is captured from innovation under conditions of uncertainty. According to Teece, business modelling is inseparable from sensing, seizing and transforming capabilities. This view is

theoretically robust and strategically grounded especially in volatile environments. Nevertheless, it has been criticized for its strong managerial and firm centric bias. The emphasis on managerial orchestration assumes a high level of control that may not exist in platform based or ecosystem driven markets where value creation is distributed across multiple actors. Similarly, Teece (2018) broadened the theoretical framework by defining business modelling as the architecture of value creation and capture that supports competitive advantage in dynamic environments. His dynamic capabilities perspective integrates innovation, strategy and business models. Despite its theoretical depth but Teece's conceptualization is criticized for being abstract and difficult to operationalize empirically, particularly in emerging economies with weak institutional structures.

Zott and Amit (2010), advances a framework that serves as a mechanism for business models as activity systems that depict how firms conduct business through interconnected activities. This activity-based view emphasizes boundary spanning and complementarities. However, the criticism in their conceptualization of business models lies in its inadequate emphasis on market demand and consumer behavior in so doing treating activities as internally driven rather than market contingent (Zott & Amit, 2010). Correspondingly, Zott, Amit, and Massa (2011), built on this insight into more practical terms by advancing their view of business model research and they opined that business model is the configuration of interdependent activities that enable value creation and value capture. Their activity system perspective treats the business model as a system distinct from but complementary to corporate strategy. This conceptualization remains influential because it provides a clear structural logic and supports empirical testing. Nonetheless, the framework has been criticized for its relative rigidity. It assumes that activities and linkages are the primary sources of value thereby neglecting softer elements such as organizational culture, narratives, legitimacy, and managerial cognition. In highly turbulent and digital environments, this activity centric logic may oversimplify how value actually emerges. Foss and Saebi (2015), analyzed business modelling through the business model innovation paradigm as they describe a business model as a coherent set of choices concerning value creation and delivery while emphasizing that these choices must be dynamically reconfigured over time. Their contribution lies in explicitly linking business modelling to organizational change and innovation processes. However, their definition tends to conflate the business model itself with the process of innovating it and as a result the conceptual boundaries between business modelling, dynamic capabilities and strategic renewal become blurred thereby raising concerns about conceptual redundancy.

These various scholarly perspectives reveal that business modelling is a multifaceted construct encompassing narrative logic, strategic architecture, activity systems, resource configurations and market alignment. While each conceptualization contributes valuable insight, this fragmentation underscores the importance of integrative methodologies that attempt to reconcile descriptive clarity, analytical rigor and predictive capability within a coherent scientific framework. Recent literature portrays business modelling as cognitive, structural, dynamic, digital, and ecosystem embedded. While this diversity reflects the richness of the concept it also exposes a persistent lack of theoretical concord. Most definitions struggle to clearly distinguish business modelling from strategy, innovation and organizational design and as such contemporary research advances depth within specific lenses but has yet to achieve integrative theoretical closure.

Biloshapka and Osiyevskyy (2018), formulated the business model framework through two central questions which are: who the customer is and what the customer values. Biloshapka and Osiyevskyy views business modelling as the logic through which a firm converts customer needs into economic outcomes. While this perspective foregrounds customer centrality but it is criticized for being overly normative and insufficiently analytical as it does not explicitly explain the structural mechanisms or interdependencies through which value is created and captured. Bashir, Naqshband and Farooq (2020), further assessed the interplay between digitalization and business model management. They analyze business modelling in the context of digital transformation by defining it as a dynamic configuration of value mechanisms enabled by digital technologies such as platforms and data analytics. Their work reflects contemporary realities and highlights how digital affordances reshape traditional business logic. However, this perspective risks technological determinism just by foregrounding digital tools it may obscure non-technological drivers of business model effectiveness such as institutional trust, governance structures, and socio-cultural factors. In this sense, the business model risks being reduced to a technological artifact rather than a holistic organizational logic.

Tullio and Tarquinio (2021), drawing on bibliometric and systematic evidence described business modelling as a comprehensive construct encompassing value creation, delivery and capture mechanisms across different contexts particularly among small and medium sized enterprises. Their work is valuable for mapping intellectual trends and contextual applications yet it does not advance a distinct theoretical definition instead it reinforces the conceptual plurality of business modelling. Shepherd, Seyb and George (2023), operationalize business modelling from a cognitive and micro foundational perspective. They argue that a business model is not merely a structural or economic configuration but a cognitive schema that guides managerial sense making and strategic action. In their view, business models function as boundary objects that allow multiple stakeholders to coordinate understanding while still interpreting the model differently. This perspective is valuable because it highlights the human and interpretive processes underpinning business model design and change. However, the approach is limited by its strong inward focus by emphasizing cognition and interpretation as it underplays the constraining power of external market forces, regulatory regimes and technological infrastructures. Moreover, cognitive schemas are inherently difficult to operationalize empirically which weakens the model's explanatory power in quantitative research. Chen and Thapa (2025), strengthen this argument through an advance ecosystem-based line of reasoning by portraying business models as open systems embedded within inter organizational networks. They argue that value creation and capture occur not at the firm level alone but across interconnected actors within an ecosystem. This approach is conceptually powerful, particularly for platform economies and collaborative innovation. However, its abstraction poses practical challenges, by stretching the business model concept to the ecosystem level it becomes difficult to delineate firm specific responsibility, control, and performance measurement which are crucial for managerial decision making.

Scholarly understanding of business modelling has continued to evolve reflecting shifts toward digitalization, ecosystem thinking and sustainability. Despite this evolution, the concept remains theoretically fragmented, with each scholar emphasizing different ontological foundations of what a business model represents.

## 3. METHODOLOGY

This section outlines the methodological approach adopted to examine the applicability of **Kolyada's universal methodology of business modeling and strategic planning** within the context of niche furniture manufacturing in Nigeria. The study employs a **case study approach** combining primary and secondary data sources and applying selected analytical tools to support market modeling, clustering, and scenario-based forecasting. The methodological framework is structured to ensure analytical rigor and contextual relevance while remaining consistent with the study's defined scope and planning horizon. By integrating empirical evidence with structured strategic modeling enables the methodology provides a systematic basis for evaluating the predictive and strategic value of the applied components of Kolyada's methodology in a real-world manufacturing setting. Specifically, this section outlines the application of a selected component of Kolyada's Universal Methodology of Business Modeling and Strategic Planning to Wood Factory Ltd, a furniture manufacturing company operating in Nigeria. The case study is designed to illustrate the strategic relevance and predictive potential of the methodology within an emerging-market manufacturing context.

The study employs a simplified application of the Market Volume and Complexity analysis (MVC-1), limited to market modeling through the estimation of market volume, market structure, and cluster formation. The analytical focus is directed toward cluster segmentation and strategic positioning within the identified target cluster and market segment. The complete MVC-1 framework, including its formal mathematical algorithms for forecasting overall market dynamics and cluster level evolution, falls beyond the scope of this study. Consequently, the analysis does not incorporate the methodology's broader suite of forecasting and optimization instruments, such as the economic mathematical business modeling mechanism used to determine the most economically efficient business model for a firm's operations within a selected market niche. These instruments include, but are not limited to, Decision Making Matrix (DMM) analysis, the Z-equation, Market Risk Analysis (MARIS), Customer Satisfaction Index (CSI) computations, and related predictive tools. Nonetheless, it is important to note that these tools were applied during the broader project phase and informed the empirical outcomes reported in this article.

The research adopts a single case study research strategy which is a methodological choice well suited for examining process oriented "how" questions and

for exploring domains where theoretical structures remain limited or insufficiently articulated (Perdices, Tate & Rosenkoetter. 2023). In this regard, Wood Factory Ltd serves as an illustrative case through which the practical relevance and analytical robustness of Kolyada's methodology are examined. Case study approaches are widely recognized as effective for capturing the complexity of organizational phenomena as they unfold within their natural settings, particularly when contextual factors play a decisive role (Hunziker & Blankenagel, 2024). The industrial setting of this study is a specialized manufacturing firm operating in Nigeria which is a setting characterized by competitive intensity, market volatility, and structural constraints. This setting renders the case study design especially appropriate for addressing the core research problem. Moreover, the selection of this case responds to an identifiable gap in the existing literature (Meganck et al., 2022). While the framework has undergone extensive application and validation within Russia and other CIS economies, empirical evidence of its applicability in non-CIS and emerging-market environments remains limited.

Wood Factory Ltd constitutes a theoretically relevant case representing a niche manufacturer navigating a turbulent and highly contested market landscape. The firm confronts strategic challenges central to the methodological claims of Kolyada's framework, particularly those related to market positioning and the anticipation of future market developments. Furthermore, the Nigerian furniture manufacturing sector provides a suitable industrial context for examining how the methodology can support strategic forecasting and positioning decisions under conditions of environmental uncertainty, using a structured, scenario-oriented analytical approach.

This study adopts a mixed empirical evidence base, drawing upon both primary and secondary sources to support comprehensive analysis. Methodological literature underscores the importance of combining multiple data types in order to address research questions effectively and enhance the credibility of findings through triangulation (Lee et al, 2024; Schneider et al., 2023). Primary evidence was collected to corroborate and supplement internal operational and financial records of Wood Factory Ltd for the 2025 fiscal year thereby strengthening data reliability (Mwita, 2022; Šerić & Ljubica, 2018). These company records yielded detailed quantitative indicators, including product-level revenue distributions, customer counts across market clusters, sales volumes, pricing arrangements, and direct cost structures (Mills et al., 2015). To enrich this dataset, semi structured interviews were conducted in 2025 with the firm's marketing function, concentrating on customer segmentation informed by psychographic drivers, as well as on production capacity, operational limitations, and strategic constraints. In addition to the primary data a broad range of secondary data sources was gathered, reviewed and systematically classified to develop a comprehensive understanding of both the Nigerian furniture manufacturing industry and Wood Factory Ltd's competitive environment. These sources comprised: (i) official industry publications and statistical reports issued by the National Bureau of Statistics (NBS, 2024; 2025), including sectoral performance indicators and market size estimates; (ii) longitudinal benchmark data on sales performance, market share evolution, and competitive positioning; and (iii) comparative information on competitor pricing and cost structures covering the 2024–2025 period. Such secondary materials offer insights into industry-level conditions and external market forces that cannot be fully captured through firm-level primary data alone. Consistent with established case study practices (Ajayi, 2023; Baldwin et al., 2022), the use of secondary data presents both strengths and limitations. The secondary datasets which were cross validated against internal firm records and insights obtained from managerial interviews (Watkins, 2022). This integrative approach was intended to reinforce data validity and mitigate potential sources of bias associated with reliance on a single data stream.

Market structure was examined through a clustering procedure designed to reveal underlying patterns of competition within the furniture industry. Clusters were constructed using three Ps defining attributes: price level, product type and purchasing channel. These variables were selected due to their strategic relevance in shaping competitive behavior and customer choice in the furniture market. A comparable clustering logic has been applied in prior empirical applications of Kolyada's Theory and Methodology to the furniture industry particularly within the Russian market context (Kolyada, 2023).

To address uncertainty and support forward looking analysis makes the study to utilize a scenario-based forecasting approach consistent with established strategic planning literature (Filani et al., 2023; Malekakhlagh et al., 2022). Scenarios were used not as predictive certainties, but as analytical instruments for improving strategic decision making

under conditions of environmental ambiguity. Three scenarios were developed for this purpose: a baseline (main) scenario, an optimistic scenario, and a pessimistic scenario. This configuration reflects conventional strategic planning practice, which favors a limited set of scenarios capable of capturing the most plausible manifestations of key risks and uncertainties (Cornelisse & van Klink, 2024). Scenario construction drew on multiple inputs, including expert interviews to identify potential disruptive events (such as new market entrants), macroeconomic projections to define assumptions regarding inflation and pricing trends, and historical data analysis to identify patterns in demand and customer behavior. Across all scenarios, the principal variables examined included total market demand, average customer expenditure, operating cost levels, shifts in consumer preferences and changes in the competitive landscape resulting from firm entry or exit. The baseline scenario reflects the most likely evolution of market and competitive conditions, assuming relative macroeconomic stability, moderate demand growth, and continuity in competitive intensity. The optimistic scenario incorporates more favorable assumptions, including accelerated demand expansion and reduced operational risks, leading to improved sales volumes and profitability. In contrast, the pessimistic scenario is grounded in adverse assumptions, such as weakening demand, escalating costs, and heightened competition, accompanied by more cautious customer purchasing behavior. Collectively, these scenarios offer a structured representation of alternative future states, thereby avoiding reliance on a single point or deterministic forecast (Haugen et al., 2023). Beyond their descriptive role, the scenarios developed in this study play a decisive function in shaping strategic decisions related to market clustering and positioning. In a favorable environment, characterized by heightened demand and improved margin potential, strategic emphasis may shift toward deeper penetration of the premium, custom manufactured segment supported by expansion-oriented investment decisions. Under less favorable conditions strategic priorities are expected to reorient toward the mid-priced segment where control, operational efficiency, and defensive positioning cost become central to sustaining performance. The baseline scenario by contrast indicates a more measured strategic posture maintaining focus on the firm's established niche while simultaneously preparing adaptive responses should market conditions deviate from expected trajectories.

Accordingly, the scenario-based approach offers a systematic mechanism for assessing the relative attractiveness and viability of alternative target clusters under differing economic and competitive assumptions. In this way, scenario analysis extends beyond the construction of alternative future states and serves as a decision support tool for strategic cluster selection, a core element in evaluating the relevance and applicability of Kolyada's methodology within niche manufacturing contexts. While the empirical results reported in this article are derived from the baseline scenario, the broader research project incorporated all three scenarios to stress test strategic options across a range of plausible market developments.

The forecasting element of Kolyada's methodology is underpinned by an economic mathematical predictive framework that integrates sensitivity testing with scenario simulation. The model draws on base-period empirical inputs including sales volumes, pricing data, direct cost structures, and customer purchase behavior at the cluster level augmented by forward looking assumptions concerning demand evolution, competitive dynamics, and external risk factors. The integration of these data streams strengthens the methodological rigor of the case study and provides a solid empirical foundation for applying Kolyada's methodology within a one-year strategic planning horizon. The planning horizon adopted in this study reflects a combination of market volatility in the Nigerian context, the accessibility of reliable empirical inputs, and the practical requirement to generate decision relevant outcomes within a constrained period. Prior to forward application, the model underwent an initial calibration and validation phase during which sales volumes for Wood Factory Ltd and its principal competitors for 2025 were projected using 2024 as the reference year. These projections were subsequently assessed against observed market results, thereby providing evidence of the model's explanatory power while also revealing the importance of periodic recalibration to sustain forecasting accuracy over extended horizons. Empirical application indicates that the methodology performs particularly well in short term forecasting contexts with predictive precision improving further when the model is systematically updated over successive periods as new information on market conditions and competitor behavior becomes available. Such iterative recalibration enhances the robustness and adaptability of the forecasts, aligning them with the study's objective of assessing the methodology's

suitability for strategic decision making in niche manufacturing environments.

## 4. RESULT

This section presents the empirical results of the study by focusing on the application of Kolyada's Universal Methodology of Business Modeling and Strategic Planning to forecast business model effectiveness within Nigeria's furniture manufacturing industry. Using the MVC-1 framework, the analysis systematically examines market modeling and clustering outcomes, target cluster selection, intra-cluster segmentation, positioning development, and forecast validation. The results are presented in a logical sequence that reflects the methodological steps adopted in chapter three thereby allowing for a clear assessment of the methodology's predictive accuracy, strategic coherence and practical relevance in an emerging manufacturing context.

### *Stage 1 Of Kolyada's Methodology4.1 Market Modeling, Clustering and Scenario Based Forecasting Using the Kolyada Market Volume and Complexity (MVC-1) Tool*

The market modeling which is the first stage of the Kolyada's methodology applies the MVC-1 (Market Volume and Complexity) tool to the Nigerian furniture manufacturing industry with the objective of identifying structurally distinct market clusters, estimating their economic potential and assessing their strategic attractiveness under alternative market scenarios. The target market consists of furniture manufacturers operating across different price ranges and sales models reflecting varying degrees of customization, distribution intensity and customer purchasing behavior.

**Target Market:** Product group: Furniture Manufacturing; Geographical region: Nigeria.

**Characteristic for Clustering:** Price range, $: Low (1.500 - 2.000), Median (2.001-2.500), High (2.501 - 3.000)
Type of Product: Standard furniture, Semi-custom furniture, Fully custom-made furniture
Method of purchasing: Mass retail / dealer-based, Contract / project-based (B2B, institutional, bespoke).

| Company name / Groups of companies | Total sales | Cluster 1: Low prices, Standard furniture, Mass retail / dealer-based sales | Cluster 2: Low prices, Standard furniture, Contract-based sales (bulk | Cluster 3: Medium prices, Semi-custom furniture, Mass retail / showroom-based sales | Cluster 4: Medium prices, Semi-custom furniture, Contract / project-based | Cluster 5: High prices, Fully custom-made furniture, Direct-to-client | Cluster 6: High prices, Fully custom-made furniture, Contract-based sales | Company's market share, % |
|---|---|---|---|---|---|---|---|---|
| H&Y Furniture Manufacturers | $126,000 | | $38,000 | $42,000 | $46,000 | | | 10.12% |
| VAVA Furniture | $90,000 | | | $43,000 | $47,000 | | | 7.23% |
| IO Furniture Ltd | $68,000 | $32,000 | $36,000 | | | | | 5.46% |
| Group: Minor players | $274,000 | $34,000 | $39,000 | $42,000 | $49,000 | $82,000 | $58,000 | 22.00% |
| Southwood Nigeria Limited | $157,000 | | | | $47,000 | $54,000 | $56,000 | 12.61% |
| Bedmate Furniture Company Nigeria | $162,200 | $33,000 | $37,200 | $44,000 | $48,000 | | | 13.03% |
| Joanswood Creation Limited | $168,000 | $35,000 | $39,000 | $45,000 | $49,000 | | | 13.49% |
| Our company (Wood Factory Limited) | $200,000 | | | $44,000 | $46,000 | $53,000 | $57,000 | 16.06% |
| Cluster volume /Market volume, $ | | $134,000 | $189,200 | $260,000 | $332,000 | $159,000 | $171,000 | $1,245,200 |
| Value added tax ( VAT) ( 7.5%) | | $10,050 | $14,190 | $19,500 | $24,900 | $11,925 | $12,825 | $93,390 |
| New cluster volume / market share ,% | | $123,950 | $175,010 | $240,500 | $307,100 | $147,075 | $158,175 | $1,151,810 |
| Sales profitability (Rate of Return), % | | 5.24% | 6.17% | 9.17% | 10.27% | 10.27% | 11.23% | 8.33% |
| Profit volume, $ | | $6,493 | $10,801 | $22,048 | $31,547 | $15,109 | $17,763 | $103,761 |
| Cluster's share , % | | 10.8% | 15.2% | 20.9% | 26.7% | 12.8% | 13.7% | 100.0% |
| Dynamics of the Cluster Volume / market Volume (in money), next year, | | 120.18% | 121.18% | 120.39% | 121.84% | 120.30% | 123.39% | |
| Expected Cluster Volume / Market Volume, next year, $ | | $148,960 | $212,069 | $289,530 | $374,171 | $176,933 | $195,025 | $1,396,697 |
| Expected Sales Profitability (Rate of Return), % | | 6.41% | 5.76% | 8.60% | 9.65% | 9.68% | 10.57% | 8.63% |
| Expected Profit Volume in the Cluster /Market, next year, $ | | $9,552 | $12,217 | $24,900 | $36,109 | $17,121 | $20,619 | $120,517 |
| Expected Cluster Share in the market volume, % | | 10.7% | 15.2% | 20.7% | 26.8% | 12.7% | 14.0% | 100.0% |
| Colours - the company's share in the cluster | | up 5% | 5-10% | 10-15% | 15-20% | 20-25% | 25-40% | 40% |

*Table 1: MVC-1: Market Model, Clusters and Their Characteristics.*

As shown in table 1, clustering was conducted using three core characteristics embedded within MVC-1 logic: price level, product type, and purchase channel for customers. Price level was operationalized across three tiers which are: low (USD 1,500–2,000), medium (USD 2,001–2,500), and high (USD 2,501–3,000) and this aligns with differences in consumer willingness to pay, cost structures, and margin potential. Product type distinguishes between standard, semi-custom, and fully custom-made furniture help to reflect the increasing levels of value added and service intensity. Purchase channels differentiate between mass retail or dealer-based sales, direct to client transactions and contract-based arrangements typically associated with institutional buyers and large projects.

Based on these criteria, six market clusters were identified. The low-price segment is divided into mass retail standard furniture (Cluster 1) and contract based standard furniture (Cluster 2). The medium price segment comprises semi-custom furniture sold through retail or showrooms (Cluster 3) and semi-custom furniture delivered through contract or project-based sales (Cluster 4). The high-price segment includes fully custom-made furniture

sold directly to end clients (Cluster 5) and fully custom-made furniture supplied through contract-based arrangements (Cluster 6). This structure reflects MVC-1's emphasis on separating markets not only by price but also by transaction logic and competitive dynamics.

Market volume analysis shows that the medium price clusters dominate the industry in value terms. Cluster 4 alone accounts for approximately 26.7% of total market volume making it the largest and most economically significant cluster. Cluster 3 follows with 20.9%, while the high price clusters jointly together represent roughly 26.5% of the market. Low price clusters jointly account for about 26% but with lower profitability levels. These distributions confirm MVC-1's proposition that market attractiveness is driven by the interaction of volume, pricing power and operational complexity rather than price level alone. Profitability analysis further reinforces this structure. Sales profitability increases consistently as the analysis moves from low price standard furniture toward high price custom made offerings. Cluster level rates of return range from 5.24% in Cluster 1 to 11.23% in Cluster 6 indicating that higher customization and contract sophistication are associated with superior margins. However, absolute profit volumes remain highest in the medium price contract-based cluster (Cluster 4) reflecting its balance between scale and margin. This outcome aligns directly with MVC-1 logic which prioritizes clusters that optimize both economic efficiency and market sustainability.

### *4.1. Scenario Based Forecasting Within The MVC-1 Framework*

Scenario based forecasting was applied to assess how cluster attractiveness evolves under changing market conditions. Consistent with MVC-1 methodology, the forecasting process integrates base year market volumes, cluster specific growth dynamics and expected changes in profitability. The projected dynamics of cluster volumes for the following year indicate positive growth across all clusters.

The expected market volumes reinforce the dominance of medium price clusters. Under the main scenario Cluster 4 is projected to reach approximately USD 374,171, retaining its position as the largest cluster by value. Cluster 3 is expected to grow to USD 289,539 while high price clusters are forecasted to reach USD 176,933 and USD 195,025 respectively. Although high price clusters continue to generate higher profitability rates, their total market volumes remain comparatively smaller limiting their standalone strategic dominance.

Expected profitability under the forecast period remains consistent with the base year pattern. High price clusters maintain the highest expected rates of return and exceeding 10% while medium price clusters sustain solid profitability between 8.6% and 9.65%. Low price clusters show modest improvements but continue to lag behind in both relative and absolute profit contribution. As a result, forecasted profit volumes are again concentrated in Cluster 4 which is expected to generate over USD 36,109 in profit and the highest among all clusters.

From an MVC-1 perspective, these results illustrate the method's core predictive logic. Under optimistic conditions the high price clusters benefit from accelerated demand and margin expansion making them attractive for selective growth strategies. Under pessimistic conditions, however, demand volatility disproportionately affects high price custom made furniture, while medium price clusters demonstrate greater resilience due to diversified customer bases and contract stability. The main scenario therefore supports medium price, semi-custom, contract-based furniture manufacturing as the strategically optimal cluster, balancing scale, profitability, and risk exposure.

### *4.2. Strategic Implications Under MVC-1*

The integration of clustering and scenario-based forecasting confirms the applicability of the MVC-1 tool to furniture manufacturing in an emerging market context. The analysis demonstrates that strategic superiority is not achieved by targeting the highest price segment alone but by selecting clusters where market volume, profitability and growth dynamics converge favorably across scenarios. For Wood Factory Limited, the results validate its strong positioning within medium and high price clusters particularly Clusters 4 and 6 which together provide both stability and upside potential.

Overall, the MVC-1-based market modeling framework provides a structured and empirically grounded basis for evaluating market niches, forecasting cluster evolution, and informing strategic decision making in manufacturing industries characterized by heterogeneity in pricing, customization, and sales channels.

## *Stage 2 Of Kolyada's Methodology*

### *4.3. Selection Of the Target Cluster*

The selection of the target cluster was guided by the integrative logic of Kolyada's MVC-1 methodology which is the second stage and it emphasizes the simultaneous evaluation of market

volume, profitability, growth dynamics and strategic resilience under alternative scenarios. Rather than identifying the most attractive cluster based on a single performance indicator, the MVC-1 framework requires the identification of a cluster that remains economically efficient and strategically sustainable across optimistic, main and pessimistic market conditions.

The empirical results as revealed in table 1 indicate that Cluster 4 which is the medium price, semi-custom furniture supplied through contract and project-based sales emerge as the most strategically balanced cluster. This cluster accounts for the largest share of total market volume which represents approximately 26.7% of the industry and generates the highest absolute profit volume among all clusters. Although its rate of return is marginally lower than that of the high price custom made clusters but its scale compensates for this difference thereby resulting in superior total profit contribution. From an MVC-1 perspective this reflects an optimal balance between economic efficiency and market accessibility.

Scenario based forecasting further supports the selection of Cluster 4 as the primary target cluster. Under the main scenario, this cluster retains its dominant position in both market volume and profit generation with forecasted growth exceeding 21%. In the optimistic scenario, the increased demand from institutional buyers and large-scale housing projects enhances both volume and margin performance thereby reinforcing the cluster's attractiveness. Importantly, under the pessimistic scenario, Cluster 4 demonstrates greater resilience than high-price custom made clusters as contract-based demand moderates' volatility and provides a degree of revenue stability despite rising costs and subdued consumer spending.

Comparative analysis shows that low price clusters though offering larger customer bases are constrained by weaker margins and limited profitability growth thereby reducing their strategic appeal. Conversely, high price clusters exhibit superior profitability ratios but are more exposed to demand contraction and project delays under adverse economic conditions. As a result, these clusters are more suitable as complementary or opportunistic growth areas rather than as the firm's primary strategic focus.

In line with MVC-1 logic, the selection of Cluster 4 reflects a deliberate trade-off between risk and return, favoring a cluster that maximizes expected economic outcomes while minimizing sensitivity to external shocks. For Wood Factory Limited, this choice aligns with the firm's existing operational capabilities, contract management experience and capacity for semi-custom production thereby reducing implementation risk. Consequently, Cluster 4 is identified as the optimal target cluster for strategic planning while selective engagement in high price clusters may be pursued as a secondary strategy under favorable market conditions.

### *4.4. Economic Logic of Target Cluster Selection*

From an economic standpoint, the selection of the target cluster was driven by the need to maximize total profit contribution rather than isolated margin performance. Cluster 4, defined by medium-priced, semi-custom furniture delivered through contract and project-based sales, demonstrates the strongest combination of market volume and absolute profitability within the industry. Accounting for approximately 26.7% of total market volume, the cluster generates the highest aggregate profit despite exhibiting a slightly lower rate of return than high-price custom-made clusters. This outcome reflects the MVC-1 principle that economic efficiency is achieved through the interaction of scale, cost structure, and accessible demand, rather than through margin optimization alone. The economic profile of Cluster 4 therefore positions it as the most value generative segment on a risk-adjusted basis.

### *4.5. Scenario Logic and Forecast Based Validation*

Scenario based forecasting provides further validation for the strategic superiority of Cluster 4. Under the main scenario, the cluster maintains its leadership in both volume and profit generation, with forecasted growth exceeding 21%, indicating strong medium term expansion potential. In the optimistic scenario the heightened demand amplifies both revenue and margin performance thereby reinforcing the cluster's attractiveness. Crucially, under the pessimistic scenario, Cluster 4 exhibits greater resilience than high price clusters as contract-based demand structures reduce exposure to discretionary spending cycles and moderate revenue volatility. This stability under adverse conditions aligns directly with MVC-1's emphasis on selecting clusters that remain viable across divergent market futures rather than those that perform well only under favorable assumptions.

### *4.6. Strategic Fit with Firm Capabilities*

Beyond economic and forecast considerations, the selection of Cluster 4 reflects a strong strategic fit with the existing capabilities of Wood Factory

Limited. The firm possesses established experience in contract management, project execution, and semi-custom production, enabling it to serve this cluster without significant restructuring or capability acquisition. This alignment reduces implementation risk and enhances execution efficiency, consistent with MVC-1 requirement that strategic choices be grounded in internal feasibility as well as external attractiveness. By contrast, heavy reliance on high price custom made clusters would increase operational complexity and exposure to project delays, while low price mass segments would exert pressure on margins and operational sustainability. Consequently, Cluster 4 represents the most coherent convergence of market opportunity, forecast resilience, and organizational capability, justifying its selection as the firm's primary strategic focus.

## *Stage 3 Of Kolyada's Methodology*

### *4.7. Segmentation Of the Target Cluster*

This is the third stage of the Kolyada's methodology following the selection of Cluster 4 as the strategically optimal market domain, then a second level segmentation was undertaken to further sharpen the firm's strategic focus within this cluster. Consistent with Kolyada's MVC-1 methodology, segmentation at this stage is not treated as a purely descriptive classification but as an analytical instrument for isolating economically, behaviorally, and motivationally homogeneous sub-segments that differ in demand stability, price sensitivity, risk tolerance, underlying customer motives and value creation logic. Importantly, this refinement incorporates psychographic dimensions of organizational buyers, recognizing that purchasing behavior is shaped not only by structural characteristics but also by decision makers' priorities, risk perceptions, performance orientation and dominant purchase motives. This approach ensures that strategic positioning is grounded in internal economic logic and buyer behavior rather than broad market labels.

Cluster 4 comprises medium price, semi-custom furniture supplied predominantly through contract based and project driven sales. While unified by similar pricing bands and product configurations, the cluster contains heterogeneous customer groups whose economic contribution, decision psychology, and purchase motivations vary substantially. Segmentation was therefore conducted using a multidimensional framework combining buyer type, project scale, purchasing frequency, functional requirements, and psychographic drivers such as customer motives (risk reduction, cost efficiency, differentiation, or speed), procurement risk aversion, emphasis on compliance versus differentiation, time sensitivity, and long-term partnership orientation. This is fully aligned with MVC-1 principles of demand structure and behavioral stability analysis.

The first segment within the target cluster consists of institutional buyers, including educational institutions, healthcare facilities, and public-sector organizations. Economically, demand in this segment is characterized by large order volumes, standardized technical specifications, and formalized procurement procedures. Psychographically, decision-makers in this segment exhibit high risk aversion, strong compliance orientation, and a preference for proven suppliers with predictable delivery and after sales support. Their primary customer motives are risk minimization, regulatory compliance, accountability, and continuity of supply. Although pricing pressure is significant, the emphasis on reliability and procedural conformity leads to repeat contracts and predictable cash flows. From an MVC-1 perspective, this segment offers moderate margins but low demand volatility, making it particularly attractive under pessimistic and baseline market scenarios.

The second segment comprises commercial and corporate project buyers, including office developments, hospitality projects, and mixed-use commercial facilities. This segment is economically distinguished by higher design intensity, greater customization within semi-standard product frameworks, and shorter procurement cycles. Psychographically, buyers in this segment are more performance and image oriented, placing higher value on aesthetics, functional differentiation, and speed of execution. Their dominant customer motives include project differentiation, brand or image enhancement, timely completion, and value-for-money rather than lowest price. They demonstrate greater tolerance for price variation in exchange for perceived quality, design alignment, and supplier responsiveness. While demand in this segment is more sensitive to macroeconomic and investment cycles, its motivational and behavioral orientation allows for superior margins. Under main and optimistic scenarios, this segment contributes disproportionately to profit expansion within Cluster 4.

The third segment includes residential development projects, particularly mid-range housing estates and apartment complexes developed by private real estate firms. Orders are typically large but episodic, closely linked to construction phases and financing conditions. Psychographically,

developers in this segment are predominantly cost conscious and schedule driven with a strong focus on scale efficiencies, standardized customization, and supplier flexibility. Their primary customer motives are cost containment, speed of delivery, financing alignment and volume efficiency. Although margins are competitive, bundled contracts and scale effects enhance total project profitability. Within MVC-1 logic, this segment exhibits higher demand variability but substantial volume potential, indicating suitability for selective engagement rather than continuous capacity commitment.

The fourth segment is the NGOs and donor funded projects segment consists of non-governmental organizations, donor agencies and faith-based institutions procuring furniture for social infrastructure such as for community facilities. Demand is largely project based and episodic, driven by donor funding cycles and compliance requirements rather than continuous market activity. Buyers in this segment are accountability oriented and documentation focused, prioritizing transparency, regulatory compliance, and reputational assurance, with moderate price sensitivity. Psychographically, buyers in this segment are accountability-oriented and documentation-focused, with a strong emphasis on transparency, compliance, and reputational assurance. Decision making is guided less by brand differentiation and more by adherence to procurement rules, traceability of costs, and the ability of suppliers to meet reporting and audit requirements. While price sensitivity is present, it is moderated by the need for quality consistency, ethical sourcing, and compliance with donor expectations. The primary customer motives in this segment include transparency, accountability, donor compliance, and risk avoidance. Margins are generally modest due to competitive bidding and budget constraints, but contract backed funding and predictable payment structures provide stability. Within MVC-1 logic, this segment offers limited growth but acts as a stabilizing supplementary market, suitable for selective engagement to balance capacity utilization and reduce revenue volatility rather than as a primary strategic focus.

Across all segments, purchasing decisions are influenced not only by price but also by customer motives and psychographic attributes such as trust in supplier competence, preference for long-term relationships, tolerance for customization complexity, expectations regarding after sales service, and the desire to reduce execution risk. These behavioral and motivational factors align closely with the firm's manufacturing services orientation and operational capabilities. The segmentation outcomes indicate that no single sub-segment dominates across all market scenarios. Instead, strategic efficiency is achieved by prioritizing institutional and corporate project segments as base load demand anchors, providing behavioral and motivational stability alongside predictable revenues, while selectively engaging residential development projects when market conditions and capacity utilization objectives are favorable.

As shown in table 2, by decomposing Cluster 4 into economically, psychographically, and motivationally distinct segments, this analysis reinforces the MVC-1 principle that strategic focus must integrate demand economics with buyer behavior and customer motives. For Wood Factory Limited, this segmentation framework supports a differentiated engagement strategy that balances risk, margin optimization, and operational fit, thereby strengthening the firm's competitive positioning in Nigeria's dynamic furniture manufacturing market.

***Table 2: Target Cluster Segmentation and Target Segment Selection. Segmenting Cluster 4 (Medium Prices, Semi-Custom Furniture, Contract / Project-Based Sales).***

| Segment | Dominant Consumer | Customer Profile | Psychographic Orientation | Primary Customer Motives | Expected Profit Volume ($) in Coming Year | Brand with Strong Association (%) | Demand Stability | Competitors Presence | Strategic Role in MVC-1 |
|---|---|---|---|---|---|---|---|---|---|
| Institutional Projects | Public institutions (schools, hospitals, government agencies) | Large-volume buyers, standardized specifications, formal procurement procedures, long decision cycles | Highly risk-averse, compliance-driven, reliability-focused | Risk reduction, regulatory compliance, delivery certainty, long-term supplier reliability | 12,277.06 | 34% | High | 9% | Core base-load segment (revenue stability anchor) |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Corporate & Commercial Projects | Private firms, hotels, offices, mixed-use developments | Medium-to-large projects, semi-custom designs, faster procurement cycles | Performance-oriented, quality-sensitive, moderately risk-tolerant | Functional differentiation, brand/image alignment, timely execution, value-for-money | 9,388.34 | 26% | High | 11% | Primary profit-growth segment |
| Residential Development Projects | Real estate developers, housing estate promoters | Large but episodic orders, standardized layouts, cost-controlled specifications | Cost-driven, schedule-focused, opportunistic | Cost minimization, scale efficiency, speed of completion, financing alignment | 7,582.89 | 21% | Medium | 40% | Selective / opportunistic segment |
| NGOs & Donor-Funded Projects | NGOs, donor agencies, faith-based institutions | Project-based purchases, mixed specifications, donor compliance constraints | Accountability-oriented, documentation-focused, moderately price-sensitive | Transparency, accountability, donor compliance, reputational assurance | 6,860.71 | 19% | Low | 30% | Supplementary stabilizing segment |
| Expected Profit Volume in the Cluster /Market, next year, $ | | | | | 36,109 | | | | |

### *4.8. Dominant Consumer Motives Across Segments Within Cluster 4*

**Segment 1. Dominant consumer motive: —** "Risk minimization and delivery certainty"

Clients in this segment are primarily motivated by the need to reduce operational, financial, and reputational risk associated with project execution. They place strong emphasis on procedural compliance, adherence to technical specifications, and reliability of delivery schedules. Supplier selection is driven by confidence in execution capability, documented performance, and the ability to provide predictable outcomes rather than by price minimization.

**Segment 2. Dominant consumer motive: —** "Project differentiation and performance value"Clients in this segment are motivated by the desire to achieve functional and aesthetic differentiation within defined project constraints. They value semi-custom solutions that enhance project image, usability, and overall performance, while still maintaining cost control. Purchasing decisions prioritize quality, design alignment, responsiveness, and timely execution, with greater tolerance for price variation in exchange for superior value delivery.

**Segment 3. Dominant consumer motive: —** "Cost efficiency and schedule alignment"Clients in this segment are driven primarily by the need to minimize unit costs and align procurement with construction timelines and financing schedules. They value scale efficiency, standardized customization, and supplier flexibility, and demonstrate a higher willingness to switch suppliers if cost or delivery advantages arise. Decision making is pragmatic and transaction-oriented, with limited emphasis on long term relationships.

**Segment 4. Dominant consumer motive: —** "Project based requirement and Compliance Assurance"

The NGOs and donor-funded projects segment represents a distinctive market characterized by project-based procurement and stringent compliance requirements. Buyers within this segment comprising NGOs, donor agencies, and faith-based institutions typically make purchases tied to specific projects, resulting in mixed product specifications that must align with donor guidelines and reporting standards. Procurement decisions are therefore less discretionary and more procedurally driven, with a strong emphasis on documentation, audit trails, and adherence to approved budgets. Behaviorally, this segment is accountability-oriented and moderately price-sensitive. While cost considerations remain important due to fixed project budgets, purchasing decisions are not based solely on lowest price. Instead, suppliers that can demonstrate transparency, compliance with donor requirements, and reputational credibility are more likely to be selected. The relatively low competitive intensity associated with this segment reflects the limited number of manufacturers capable of consistently meeting documentation and compliance expectations, creating a moderate entry barrier for

less formalized producers.

### *Stage 4 Of Kolyada's Methodology*

### *4.9. Position Development Within the Selected Target Segment*

Position development within Cluster 4 was guided by the principle that sustainable competitive advantage in manufacturing services emerges from the alignment of the firm's value proposition, operational capabilities, and the economic, psychographic and motivational characteristics of a clearly defined target segment. In accordance with Kolyada's MVC-1 methodology, positioning is treated as an outcome of economic efficiency and behavioral compatibility rather than as a purely perceptual construct (Kolyada, 2023). Accordingly, the firm deliberately positions itself for the institutional and corporate project segments within Cluster 4, while treating residential development projects and NGOs donor funded projects as a secondary and opportunistic segment.

Within Cluster 4 comprising medium-price, semi-custom furniture supplied through contract and project-based sales the dominant competitive dimensions include delivery reliability, modular customization, cost transparency, and the ability to manage complex project environments. The institutional and corporate segments which constitute the firm's chosen target, are characterized by decision makers who are risk averse, compliance oriented and strongly focused on execution certainty. Their primary purchasing motives are risk reduction, procedural compliance, delivery assurance, and long-term supplier dependability. As a result, supplier selection in these segments is driven less by lowest price and more by confidence in delivery performance, governance discipline, and service continuity. Position development was therefore oriented toward establishing the firm as a solution-oriented manufacturing service provider tailored specifically to these motive structures.

The firm's core positioning emphasizes semi-custom flexibility within standardized production frameworks, directly addressing both the functional requirements and the underlying motives of institutional and corporate buyers. This approach enables tailored solutions that satisfy technical, regulatory, and project specific needs while preserving cost efficiency and margin predictability. From an MVC-1 perspective, this positioning reduces cost volatility and enhances margin stability, particularly under baseline and pessimistic scenarios where demand uncertainty and input price fluctuations are more pronounced. By constraining customization within predefined modules, the firm avoids the margin erosion and operational instability associated with fully bespoke manufacturing which is an outcome aligned with buyers' motives for predictability, control, and execution certainty.

A second dimension of the firm's position is project execution competence, which directly corresponds to the dominant motives of risk minimization and schedule assurance in the institutional and corporate segments. These buyers prioritize on-time delivery, strict specification compliance, and coordination with broader project timelines to safeguard operational and reputational outcomes. Accordingly, the firm's positioning explicitly incorporates process reliability, contract performance discipline, and delivery assurance, supported by structured project management systems and service level commitments. This reinforces alignment with the psychographic and motivational profile of the chosen segments, where trust, accountability, and predictability outweigh short-term price advantages.

Service integration forms a third pillar of the positioning strategy. For institutional and corporate buyers whose motives include continuity, accountability, and lifecycle cost control, the integration of installation, after sales support, and limited maintenance services enhances perceived value and increases switching costs. Within MVC-1 logic, this deepens the economic density of the chosen segments by expanding revenue per contract and stabilizing demand through repeat engagements, without relying on price competition.

By contrast, residential development projects are not the primary positioning focus. This segment is characterized by more cost driven, schedule focused, and opportunistic purchasing motives, with higher tolerance for supplier substitution and lower emphasis on long term relationships. While the firm remains capable of serving residential projects during favorable market conditions, engagement with this segment is selective and capacity-contingent, ensuring that it does not dilute the firm's core position or undermine margin discipline.

### *4.10. Strategic Positioning Prioritization of Target Segments Within Cluster 4*

Furthermore, as shown in table 2, following the segmentation of Cluster 4, Institutional Projects and Corporate & Commercial Projects were selected as the primary target segments for strategic focus. This selection is justified on multiple reasons. First, both segments demonstrate higher expected profit volumes in the coming year ($12,277.06 for

Institutional Projects and $9,388.34 for Corporate & Commercial Projects), indicating strong revenue potential relative to other sub-segments. Second, these segments exhibit high demand stability which reduces the risks associated with revenue volatility and enables more reliable capacity planning and operational forecasting. Third, competitor presence is relatively low (9% for Institutional Projects and 11% for Corporate & Commercial Projects), providing an opportunity to strengthen market positioning and consolidate share without engaging in intense price-based competition.

From a strategic standpoint, both segments serve critical roles within the MVC-1 framework. Institutional Projects function as a core base segment, providing a stable foundation of predictable revenue that underpins operational and financial planning. Corporate & Commercial Projects serve as a primary profit growth segment thereby offering superior margins driven by demand for semi-customized solutions, performance differentiation and project specific value creation. In addition, buyers in these segments exhibit psychographic and motivational profiles (risk aversion, compliance orientation, and emphasis on reliability for Institutional Projects); performance and image orientation, and tolerance for premium pricing for Corporate Projects that align closely with the firm's manufacturing service capabilities, including controlled customization, project execution competence, and service integration.

Moreover, these segments allow the firm to leverage its brand recognition (34% for Institutional Projects and 26% for Corporate & Commercial Projects), further enhancing customer loyalty, repeat engagements, and long-term partnership opportunities. Collectively, these factors such as high profit potential, demand stability, low competitive intensity, strategic relevance, alignment with firm capabilities, and strong brand association justify prioritizing Institutional and Corporate & Commercial Projects as the focal segments for Cluster 4. Residential Development Projects and NGOs & Donor Funded Projects while contributing to revenue in opportunistic or supplementary capacities, are treated as secondary segments due to lower stability, lower margins, and higher competitive presence.

Position development within Cluster 4 reflects a deliberate strategic choice to compete for institutional and corporate project segments whose economic structure, psychographic orientation, and customer motives align most closely with the firm's manufacturing service capabilities that aligns wood factory limited value proposition with customer demands and this strategic choice allows the company to satisfy customer's choice. By emphasizing execution reliability, controlled customization, and integrated services, the firm establishes a defensible and resilient position consistent with the predictive and scenario-based insights of the MVC-1 framework.

### *4.11. Validation Of Forecast Accuracy*

The 2025 forecast results were rigorously compared with the actual performance outcomes to assess the predictive reliability and strategic validity of the MVC-1 model. Across all key performance indicators, the deviations between forecasted and actual results were minimal, confirming the robustness and high accuracy of the modeling approach.

**Cluster Volume / Market Value ($):** The forecast of $374,171 slightly exceeded the actual volume of $370,950, yielding an absolute deviation of $3,221 (−0.86%). The stability ratio of 0.9914 indicates a high level of prediction stability with the forecast only marginally overestimating demand growth. The deviation remains within acceptable strategic tolerance bands, in so doing affirming the reliability of volume predictions.

**Sales Profitability (Rate of Return, %):** Forecasted profitability of 9.65% compared to an actual 9.72% resulted in a minor positive deviation of 0.07% (+0.73%). The stability ratio of 1.0073 highlights strong margin forecasting accuracy suggesting that profitability resilience slightly outperformed expectations, though margin pressures from cost inflation and competitive pricing were somewhat underestimated. The reliability assessment remains acceptable.

**Profit Volume ($):** Profit forecasts of $36,109 were closely aligned with actual profits of $36,420, producing an absolute deviation of $311 (+0.86%). The stability ratio of 1.0086 reflects high earnings reliability, and the minor conservative bias confirms effective strategic execution despite a slight volume difference.

**Cluster Market Share (%):** Forecasted market share of 26.80% versus the actual 26.95% resulted in a deviation of +0.15% (+0.56%), demonstrating strong structural validity and excellent forecast precision. The very high reliability of this indicator confirms the stability of the competitive positioning.

**Market Size (₦ million):** The macro-level market forecast of ₦1.40 million closely approximated the actual market size of ₦1.39 million, with a deviation of −0.01 million (−0.71%) and a stability ratio of

0.9929. This indicates that the macroeconomic assumptions underlying the forecast were sound and resilient to external volatility.

**Revenue Growth Rate (%):** The forecasted revenue growth of 21.84% versus actual 22.00% produced a minor positive deviation of 0.16 (+0.73%), showing that growth dynamics were accurately captured, and the conservative bias reflects prudent anticipation of project execution efficiency. Reliability remains acceptable.

**Profit Margin (%):** Forecasted profit margin of 8.63% slightly underestimated the actual margin of 8.70% (+0.07; +0.81%), with a stability ratio of 1.0081. This confirms robust cost-return modeling and highlights operational efficiency exceeding expectations.

**Strategic Efficiency Index:** The forecasted index of 0.82 compared to an actual 0.83 (+0.01; +1.22%) indicates minor positive deviation while confirming strong strategic coherence. The model's execution baseline is reliable, with very high predictive stability across scenarios.

**Overall Model Accuracy:** The MVC-1 model achieved a forecast accuracy of 99.1%, demonstrating high predictive consistency and robust applicability for medium-term strategic planning. Minor deviations across individual indicators did not compromise the overall reliability, suggesting the model is well suited for guiding decision-making under varying market conditions.

The reliability of the model was assessed by comparing its 2025 projections with the actual performance metrics for Cluster 4. As presented in Table 3, the differences between forecasted and observed values were minimal, indicating that the model was appropriately calibrated during its initial setup and capable of delivering accurate short-term predictions. This underscores its utility in supporting strategic decision making within the fast-changing furniture manufacturing market in Nigeria. Moreover, sensitivity analysis was integrated into the scenario modeling process, allowing the model to evaluate how variations in factors such as customer demand, operational costs, and competitor actions influence key outcomes. This feature enhances both the model's robustness and its flexibility in anticipating future market conditions. The validation results demonstrate that the forecasting framework effectively identifies strategic opportunities, informing the selection of target market segments and the design of positioning strategies aligned with consumer behavior. Kolyada's methodology offered a systematic and dependable approach to market modeling, segmentation, clustering, and positioning, ultimately facilitating the creation of a business model that is both strategically coherent and responsive to market dynamics.

The analysis validates the high accuracy and stability of the MVC-1 forecasting model. Deviations were minimal, biases were either conservative or slight, and all stability ratios exceeded 0.99, confirming that the model provides a reliable and strategically relevant framework for business and market planning.

***Table 3: Reliability And Robustness Assessment of Kolyada MVC-1 Forecast Results (Cluster 4).***

| Indicator | Base Result (2024) | Forecast Result (2025) | Actual Result (2025) | Absolute Deviation | Deviation (%) | Stability Ratio | Interpretation | Forecast Bias | Reliability Interpretation | Reliability Judgment | Reliability Interpretation (MVC-1 Logic) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cluster volume / market value ($)** | 307,100 | 374,171 | **370,950** | 3,221 | **−0.86%** | **0.9914** | Forecast slightly overestimated demand growth | Slight over-forecast | High volume prediction stability | High reliability | Slight overestimation of demand volume; deviation remains within acceptable strategic tolerance band |
| **Sales profitability (Rate of Return, %)** | 10.27% | 9.65% | **9.72%** | +0.07 | **+0.73%** | **1.0073** | Profitability resilience slightly stronger than forecast | Slight under-forecast | Strong margin forecasting accuracy | Acceptable reliability | Margin pressure underestimated due to cost inflation and competitive pricing dynamics |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Profit volume ($)** | 31,547 | 36,109 | **36,420** | +311 | **+0.86%** | **1.0086** | Margin realization marginally exceeded expectations | Conservative bias | High earnings reliability | High reliability | Higher-than-expected profit confirms effective strategic execution despite volume shortfall |
| **Cluster market share (%)** | 26.70% | 26.80% | **26.95%** | +0.15 | **+0.56%** | **1.0056** | Competitive position remained stable | Neutral | Excellent share stability | Very high reliability | Market positioning forecast highly accurate, indicating strong structural validity |
| **Market size ($ Million)** | 1.15 | 1.40 | **1.39** | −0.01 | **−0.71%** | **0.9929** | Macro market expansion aligned with forecast | Slight over-forecast | Macro-level consistency | Very high reliability | Macro-level forecast error marginal; confirms robustness under external volatility |
| **Revenue growth rate (%)** | 21.8% | 21.84% | **22.00%** | +0.16 | **+0.73%** | **1.0073** | Slight upside from project execution efficiency | Conservative | Captures growth dynamics well | Acceptable reliability | Growth optimism corrected by real economic conditions; trend direction remains valid |
| **Profit margin (%)** | 8.33% | 8.63% | **8.70%** | +0.07 | **+0.81%** | **1.0081** | Cost discipline held under market pressure | Mild optimism | Robust cost-return modeling | High reliability | Operational efficiency exceeded expectations, reinforcing strategic adaptability |
| **Strategic Efficiency Index** | 0.79 | 0.82 | **0.83** | +0.01 | **+1.22%** | **1.0122** | Execution quality marginally exceeded model baseline | Neutral | Strong strategic coherence | Very high reliability | Minor deviation confirms stable strategic performance across scenarios |
| **Model Forecast Accuracy (%)** | | **99.1%** | | | | **0.9910** | High predictive consistency of MVC-1 | | Confirms high model reliability | Robust model. Confirms high model reliability | High predictive reliability for medium-term strategic planning |

### *4.12. Strategic Discussion*

This study applied a core component of Kolyada's methodology to evaluate the strategic positioning and performance stability of the selected market cluster using the MVC-1 forecasting framework. The empirical results indicate that the organization's strategic posture is well aligned with prevailing market conditions, as evidenced by the minimal deviations between forecasted and actual outcomes across key indicators in 2025. The high accuracy levels recorded for market volume, profitability, market share, and growth dynamics confirm that the selected cluster represents a viable and strategically attractive space for sustained value creation. The observed performance outcomes suggest that the organization is well positioned to maintain competitiveness within its target cluster by aligning operational capabilities with dominant market drivers such as stable demand growth, resilient profitability and efficient cost management. At the same time, the near perfect stability ratios for market share and market size confirm the structural soundness of the chosen market position.

Beyond the specific findings of this case, Kolyada's methodology demonstrates distinct advantages for strategic decision making when compared to widely used frameworks such as the McKinsey 7S Framework, Balanced Scorecard, Blue Ocean Strategy Framework, Business Model Canvas, PESTEL analysis, and the Porter Value Chain. While these conventional tools are largely qualitative and

diagnostic in nature, Kolyada's approach enables quantitative forecasting of critical business metrics including market size, cluster volume, revenue growth, profitability, and strategic efficiency. This quantitative orientation allows decision makers to assess strategic options with greater precision and reduced uncertainty. It is important to note that this study applied only a specific component of Kolyada's methodology, focusing primarily on market modeling, clustering, forecasting accuracy, and strategic positioning validation. Other elements of the methodology such as digital business modeling, productivity forecasting, economic efficiency assessment, strategic goal formulation, target-based management, budgeting, brand management and corporate culture analysis were beyond the scope of this research but remain relevant avenues for future studies.

A defining strength of the methodology is its embedded sensitivity analysis which permits the simulation of alternative strategic scenarios and the evaluation of how changes in demand conditions, cost structures and competitive behavior influence performance outcomes. This capability enhances the model's robustness and makes it particularly suitable for application in volatile and segmented markets where strategic decisions must account for uncertainty and competitive interaction. The ability to model competitor responses and quantify their impact on market share and profitability further differentiates the methodology from conventional strategic tools. From a cost benefit perspective, although the application of the methodology requires a moderate investment in data gathering and initial calibration but the resulting analytical rigor and forecasting reliability offer substantial strategic value. The high forecast accuracy of the MVC-1 model demonstrates that this investment yields strong returns by supporting informed positioning, resource allocation, and long-term planning decisions.

## 5. CONCLUSION

This study empirically assessed the applicability and effectiveness of Kolyada's universal methodology of business modeling and strategic planning in forecasting business model effectiveness within Nigeria's furniture manufacturing industry. The study demonstrated that Kolyada's framework by applying selected components of the methodology specifically the market modeling, clustering, segmentation, quantitative forecasting, and strategic positioning provides a robust data driven approach for understanding complex market dynamics and supporting strategic decision making in a volatile and competitive environment. This capability is particularly valuable in the Nigerian context, where firms operate under conditions of demand uncertainty, cost volatility, and intense competitive pressure.

The study's results confirm that the methodology effectively supports the identification of viable market clusters, the selection of target segments and the development of positioning strategies aligned with customer motives and market realities. In practical terms, the findings suggest that furniture manufacturing firms in Nigeria can leverage Kolyada's universal methodology to improve strategic coherence, optimize resource allocation, and enhance the long-term effectiveness of their business models. The methodology's ability to link market structure, strategic choices, and financial outcomes provides managers with a comprehensive framework for aligning operational execution with strategic intent.

The empirical analysis validated the ability of the model to produce accurate forecasts of market size, cluster volume, revenue growth, profitability, and market share, thereby supporting evidence based strategic planning. The findings indicate that even a partial application of Kolyada's methodology generates reliable and quantifiable projections of core business indicators while enabling firms to align strategic intent with observed market behavior. The close alignment between forecasted and actual performance outcomes confirms the effectiveness of the historical tuning and calibration process, reinforcing the practical usefulness of the methodology for short to medium term strategic planning. The study provided actionable insights for identifying viable market segments and refining competitive positioning within the Nigerian furniture manufacturing sector by integrating scenario-based forecasting with cluster level analysis.

The results further highlight the distinctive value of Kolyada's methodology in enabling quantitative evaluation of alternative business models, including forecasts of revenue, profitability, market share, and strategic efficiency. This capability differentiates the methodology from conventional qualitative tools that rely primarily on descriptive or comparative assessments. Through the incorporation of sensitivity analysis, the methodology effectively functions as a digital business model, allowing managers to simulate multiple strategic options under varying assumptions related to demand fluctuations, cost dynamics, and competitive

behavior. Such structured experimentation supports the selection of strategies that optimize economic outcomes relative to the resources deployed.

In addition, the methodology facilitates the assessment of the economic efficiency of both the focal firm's business model and those of competing firms, thereby illustrating the financial implications of strategic competitiveness. This feature enhances managerial decision making by explicitly accounting for competitive interactions which is an essential consideration in highly competitive and fragmented markets such as Nigeria's furniture manufacturing industry. By linking strategic choices to measurable economic consequences, the methodology supports more informed and analytically grounded business modeling and planning decisions.

Beyond firm level application, the methodology also holds significant relevance for policymakers, industry regulators, and development agencies. Its ability to identify economically viable clusters, forecast market outcomes, and evaluate competitive dynamics makes it a valuable tool for guiding industrial development strategies, supporting small and medium sized enterprises and promoting sustainable growth and innovation within manufacturing sectors. Overall, the findings of this study confirm that Kolyada's methodology provides a rigorous, adaptable and empirically validated framework for forecasting business model effectiveness and supporting strategic planning in Nigeria's furniture manufacturing industry.

This study confirms that Kolyada methodology of business modeling and strategic planning is a valid, reliable and practically relevant framework for forecasting business model effectiveness in Nigeria's furniture manufacturing industry. Its empirical performance, analytical rigor and adaptability position it as a powerful alternative to conventional strategic tools, offering both scholars and practitioners a structured pathway for navigating uncertainty and achieving sustainable competitive advantage.

### *5.1. Theoretical Implications*

By operationalizing selected components of the methodology and validating its forecasts against actual market outcomes, the study extends existing theoretical discussions on how quantitative approach can enhance strategic planning and business model analysis beyond predominantly qualitative frameworks.

First, the findings advance business model theory by demonstrating that business models can be treated not only as descriptive or conceptual representations but also as quantifiable, testable constructs. Unlike dominant perspectives that conceptualize business models as static configurations of value creation and capture mechanisms, this study shows that Kolyada's methodology enables dynamic forecasting of business model performance indicators such as revenue, profitability and market share. This reinforces the theoretical proposition that business models can be empirically evaluated ex ante and ex post, thereby bridging the gap between business model design and performance outcomes.

Second, the study contributes to strategic planning theory by empirically validating a forecasting-oriented approach to strategy formulation. Traditional strategic management theories often emphasize positioning, resources, or capabilities without explicitly integrating quantitative scenario testing. The results of this study demonstrate that Kolyada's methodology embeds strategic choice within a predictive analytical structure thereby allowing alternative strategies to be evaluated under varying market conditions. This supports the theoretical argument that effective strategy formulation in volatile environments requires integration of foresight, uncertainty modeling, and economic simulation rather than reliance on static planning assumptions.

Third, the study enriches cluster and market segmentation theory by illustrating how quantitative cluster modeling can be directly linked to strategic positioning and business model effectiveness. Rather than treating market clusters and segments as purely analytical categorizations, the methodology operationalizes them as economic units with forecastable behavior and measurable performance outcomes. This contributes to theory by positioning clusters as strategic constructs that can be modeled, compared, and optimized within a broader business system.

Fourth, the incorporation of competitor's simulation has important theoretical implications for competitive strategy research. By explicitly modeling how changes under scenario, cost structures, competitor and customers psychographic behavior influence business outcomes, the methodology advances theoretical understanding of competitive interaction as a measurable and forecastable process. This moves competitive strategy theory beyond static competitive analysis toward a more dynamic oriented perspective that accounts for interdependence among market actors.

Fifth, the study extends strategic management theory in emerging market contexts by

demonstrating that advanced quantitative business modeling frameworks can be successfully applied in environments characterized by institutional uncertainty, cost volatility and fragmented competition. The empirical validation within Nigeria's furniture manufacturing industry challenges the assumption that sophisticated strategic modeling tools are only suitable for highly developed or data rich markets. This contributes to the growing body of theory emphasizing contextual adaptability and methodological pluralism in strategy research.

Finally, by confirming that the application of Kolyada's yields meaningful theoretical and empirical insights, the study suggests that the methodology functions as a modular theoretical framework rather than a rigid prescriptive model. This has implications for future theory development as researchers can selectively apply and test individual components of the methodology to explore specific strategic phenomena such as market entry, competitive rivalry or business model transformation.

This study strengthens theoretical foundations in business modeling and strategic planning by empirically demonstrating the value of a quantitative forecast driven approach. Also, this study positions Kolyada's methodology as a substantive theoretical contribution that integrates business model theory, strategic planning and competitive dynamics into a coherent analytical framework suitable for both developed and emerging market contexts.

### *5.2. Managerial Implications*

The findings of this study offer several important implications for managers and business owners operating in Nigeria's furniture manufacturing industry. First, the high forecast accuracy achieved through the application of Kolyada's demonstrates that managers can rely on quantitative business modeling to support strategic planning decisions rather than depending solely on intuition or descriptive analysis. Managers are better equipped to evaluate the economic viability of alternative business models before committing significant resources by forecasting key performance indicators such as market size, revenue growth, profitability and market share.

Also, the study highlights the practical value of market clustering and segmentation as decision support tools. Managers can use the methodology to identify attractive market clusters with favorable demand characteristics and manageable competitive intensity. This enables firms to focus their efforts on well-defined target segments rather than pursuing broad, undifferentiated market strategies. In the context of Nigeria's furniture manufacturing industry where competition is intense and margins are often constrained such focused positioning can improve resource utilization and enhance competitive advantage.

The findings highlight that market niche identification should be treated as a structured multistage managerial process. Managers are advised to first employ market modeling and forecasting to identify an economically attractive target cluster and subsequently conduct in-depth segmentation within that cluster to isolate the most viable target segment. This systematic approach reduces strategic ambiguity and enhances the precision of market entry and expansion decisions.

Correspondingly, the ability of the methodology to model competitive behavior and quantify its impact on firm performance provides managers with deeper insight into strategic competition. Rather than reacting to competitor actions after they occur rather managers can anticipate potential competitive responses and adjust their strategies accordingly. This is particularly important in fragmented markets like Nigeria's furniture manufacturing sector where numerous small and medium sized firms compete for overlapping customer segments.

Additionally, the study demonstrates that even partial implementation of Kolyada's methodology can yield meaningful managerial benefits. Firms do not need to adopt the entire framework at once to realize value. Managers can begin by applying selected modules such as market modeling, forecasting and scenario analysis then progressively integrate additional components as data availability and organizational capabilities improve. This modular approach lowers adoption barriers and makes the methodology accessible to both small and large firms.

Likewise, this study offers several important managerial implications for practitioners in Nigeria's furniture manufacturing industry as the empirical evidence demonstrates that forecasting driven business modeling and strategic planning tools embedded in Kolyada's methodology require deliberate investment in time, data collection, calibration and managerial learning to deliver meaningful results. However, firms that adopt these tools early are better equipped to anticipate market dynamics, respond proactively to the V**olatility, Uncertainty, Complexity, and Ambiguity (**VUCA) environmental disruptions and sustain competitive relevance in a volatile operating environment.

The study underscores the importance of aligning company positioning, value propositions, and unique selling propositions with the underlying consumer motives and natural demand drivers of the selected target segment. Firms are more likely to achieve coherence between their internal resources, product offerings, and market expectations when positioning strategies are developed in conformity with forecasted customer preferences and purchasing behavior.

Overall, the application of Kolyada's methodology enables managers to select market positions that are not only economically optimal but also realistically achievable given organizational capabilities. Beyond generating numerical forecasts, the methodology provides a rigorous analytical framework for strategic dialogue, reducing excessive reliance on managerial intuition and improving the quality of decision making under conditions of uncertainty prevalent in Nigeria's furniture manufacturing sector.

### *5.3. Limitations And Further Research Directions*

Despite the empirical contributions of this study but certain limitations should be acknowledged which also provide direction for future research.

First, the study applied only selected components of Kolyada's methodology of business modeling and strategic planning with primary emphasis on market modeling, clustering, quantitative forecasting, and strategic positioning validation. While this partial application was sufficient to demonstrate the methodology's predictive strength and strategic relevance, other elements of the framework such as economic efficiency assessment, digital business modeling, budgeting systems, brand management and corporate culture analysis were not examined. Future studies may adopt a more comprehensive application of the methodology to evaluate its full integrative potential.

Second, the empirical analysis was based on a single industry context which is the Nigeria's furniture manufacturing sector. Although this focus enabled an in-depth assessment within a specific manufacturing environment it limits the generalizability of the findings to other industries with different market structures, cost dynamics or regulatory conditions. Further research could replicate the study across other manufacturing subsectors, service industries or technology driven markets within Nigeria and other emerging economies to enhance external validity.

Finally, the study relied on short term forecast validation using a limited time horizon. While the results confirmed high predictive accuracy for the 2025 period, longer term forecasts may be subject to greater uncertainty due to structural market changes, macroeconomic shocks, or policy interventions. Future research may extend the validation period to medium- and long-term horizons enabling assessment of the methodology's performance under prolonged volatility and structural transformation.

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