JURNAL OPTIMALISASI
Teknik Industri
Journal homepage : http://jurnal.utu.ac.id/joptimalisasi
E - ISSN - 2502 - 0501
P - ISSN - 2477 - 5479

The Application of Value Engineering-Based Balanced Scorecard on Madura Small and Medium Enterprises: A Customer-Oriented and Cost-Efficiency Strategic Approach

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ARTICLE INFO

Received: 24-07-2025
Revision: 29-09-2025
Accepted: 17-10-2025

Keywords:
Balanced Scorecard
Informal Business
MSME Performance
Strategic Management
Value Engineering

ABSTRACT

Madura stalls, as part of informal micro-enterprises, play a vital role in meeting the needs of urban communities. However, most still operate without a structured strategic management system and performance measurement. This situation makes it difficult for business owners to monitor efficiency, understand customer satisfaction, and plan for long-term competitiveness. On the other hand, there is a research opportunity to adapt modern management methods, such as the Balanced Scorecard (BSC) and Value Engineering (VE), to suit the context of simple yet influential small businesses. This study aims to design a performance measurement system by integrating VE into the BSC framework at a Madura stall in Klampis, Surabaya. The method used is an exploratory case study with a mixed-methods approach, involving owners (n = 5), employees (n = 10), and customers (n = 30). Data were collected through interviews, observations, questionnaires, and document review. Data were then analyzed using the Function Analysis System Technique (FAST), KPI formulation, AHP weighting, and performance evaluation. The study results show that several key performance indicators exceeded targets, such as daily sales volume (226.7%), number of customers (200%), and net profit (120%). These achievements confirm that the integration of the BSC and VE can improve cost efficiency, strengthen customer orientation, and provide a clearer strategic direction for informal micro-enterprises. This study contributes by providing a contextually relevant performance measurement framework and opens up opportunities for further research on the application of the BSC and VE to other micro-enterprise units.

1. INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) play an important role in driving economic growth and community empowerment in Indonesia [1], [2], [3]. The growth of SMEs can be seen in picture 1

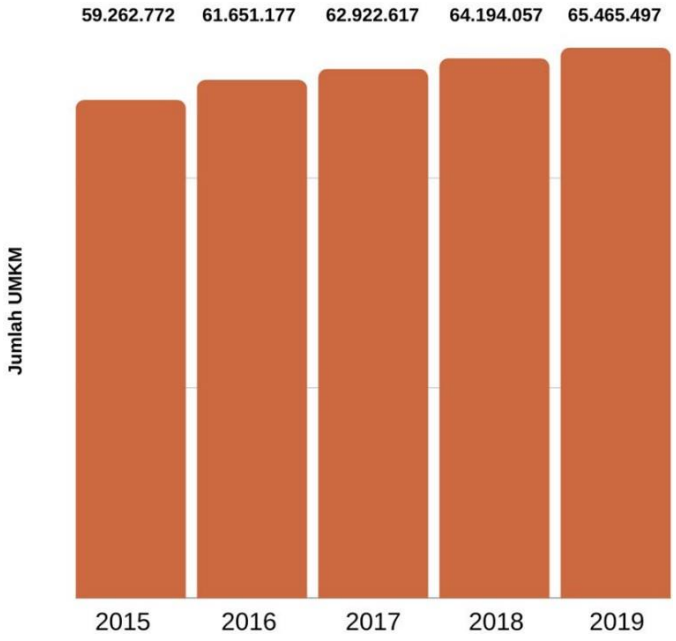

Figure 1. Development Data of MSMEs in Indonesia 2015-2019

(Source: Ministry of Cooperatives and MSMEs of the Republic of Indonesia)

Data mentions that it is the backbone of the national economy, absorbing more than 97% of the workforce and contributing more than 60% to Indonesia's Gross Domestic Product (GDP) [4], [5], [6]. Along with market changes and globalization pressures, SMEs face various fundamental challenges, ranging from limited innovation, low productivity, to weak business management capacity. The most significant challenges include digital literacy, production efficiency, licensing, branding, and access to finance. These challenges are especially pronounced in informal micro-enterprises such as Madurese Stall, where business operations are largely driven by intuition, informal decision-making, and minimal use of performance metrics. As a result, many of these businesses struggle to scale, maintain competitiveness, or respond to shifts in consumer behavior, despite their significant role in the local economy. To address these challenges, the government aims to have up to 30 million MSMEs enter the digital ecosystem by 2024 through the national digital transformation program [7], [8], [9], [10]. In the context of increasingly complex and dynamic competition, the main challenge for MSMEs is not only how to survive, but also how to enhance the value of products and services efficiently. [8]. In this regard, the role of value engineering as a systematic approach to identify the main functions of a product or service to maximize value through cost reduction without compromising quality or performance is crucial [11], [12].

The statement by Khanifah et al. (2023) and Chen et al. (2022) states that value engineering not only focuses on cost efficiency but also on how organizations can provide maximum value to customers through the optimization of functions within the business system [12], [13]. In their study on construction projects, value engineering has proven capable of generating innovative, cost-effective solutions without sacrificing quality or the final benefits of the product for users.

In terms of SMEs, value engineering can be applied through the development of more adaptive and efficient business strategies. One way is by integrating the Balanced Scorecard (BSC) framework, which measures performance from four perspectives: financial, customer, internal business processes, and learning and growth. Through this approach, every business initiative can be directed to deliver measurable and sustainable added value. Previous research [14] Designed a performance measurement system for K-24 Pharmacy Surabaya using the integration of the Balanced Scorecard (BSC) method and the Analytical Hierarchy Process (AHP). The results showed that the financial and customer perspectives have the highest priority weights, indicating the importance of value efficiency aligned with profitability and consumer satisfaction. The integration of BSC and AHP allows for the determination of more focused and measurable performance indicators, supporting the systematic and adaptive value creation in response to organizational needs.

This study aims to implement the Balanced Scorecard (BSC) approach integrated with value engineering in a specific type of MSME, namely Madurese Stall in the Klampis area, Surabaya. As a representative of traditional grocery stores, Madurese Stall has significant potential to support the economic independence of the local community. However, this potential has not yet been systematically harnessed through structured strategic management practices that emphasize measurable value creation.

A notable gap remains in the existing literature regarding the practical application of value-based performance

measurement systems within informal, community-based SMEs such as Madurese Stall. Until now, there has not been a comprehensive study that applies the Balanced Scorecard framework based on value engineering specifically to the Madura Warung business model, which has flexible characteristics, low cost, and is deeply rooted in the local economy. Therefore, this research offers a contribution of novelty by integrating value engineering principles into the Balanced Scorecard framework to develop a contextual strategic performance system for Madurese Stall. The novelty of this study lies in the adaptation of a structured corporate performance model into the form of a micro-scale informal business, and it shows how a value-based strategic framework can enhance efficiency, customer focus, and long-term competitiveness in a grassroots economic environment.

Based on the background, this study aims to design a contextualized strategic performance measurement system for Madurese Stall in Klampis, Surabaya, by integrating value engineering principles into the Balanced Scorecard (BSC) approach. The objectives include identifying the key business functions that contribute to customer value, formulating performance indicators aligned with the four BSC perspectives (financial, customer, internal business processes, and learning and growth), prioritizing those indicators based on their strategic relevance, and developing a measurable and value-based framework suitable for informal micro-scale enterprises.

2. RESEARCH METHOD

2.1. Research Design

This study will use an exploratory case study approach with a qualitative-quantitative (mixed-methods) method framework. The purpose of using this method is to design a strategic performance measurement system based on Value Engineering (VE) integrated into the Balanced Scorecard (BSC) framework at the informal micro business unit Madurese Stall in Klampis, Surabaya. This approach was chosen because it enables the in-depth exploration of business functions, customer value perceptions, and the systematic measurement of managerial efficiency and effectiveness. The mixed-methods framework applied in this study follows a concurrent triangulation design, where qualitative and quantitative data were collected and analyzed simultaneously to provide complementary insights.

2.2. Location and Subject of Research

The research subjects were Madurese Stall (a small and medium-sized enterprise) in the Klampis area of East Surabaya. Warung Madura was chosen because it represents the informal business sector, which has not yet implemented formal strategic management practices, yet plays a significant role in the local economy. [15], [16].

Respondents were selected using purposive sampling, as the focus of this research is a case study that emphasizes in-depth information rather than broad generalizations [17]. Respondents consisted of:

1) Business owners (n = 5): selected because they play a role in strategic and managerial decision-making.
2) Employees (n = 10): selected because they are directly involved in daily operations, thus providing insight into business process efficiency.
3) Customers (n = 30): selected to represent consumer perceptions of value, satisfaction levels, and loyalty to Madurese Stall. A sample size of 30 was deemed sufficient to reflect the variation in customer perceptions in this exploratory study.

The number of respondents was adjusted to the limited research resources and strengthened through data triangulation (interviews, observations, questionnaires, and documentation studies) to ensure the validity of the results [18]. Inclusion criteria were applied to ensure consistency in respondent selection. Business owners had to have managed their stores for at least two years, employees had to have worked for a minimum of six months, and customers had to have made at least three purchases within the last two months. Data collection was conducted over three months (May–July 2024) to capture variations in customer behavior and business performance.

2.3. Data Collection Techniques

Data collection was conducted through triangulation methods to increase the validity and reliability of the results, consisting of:

1) Semi-structured interviews with the owners and managers of Madurese Stall to explore information related to business functions, informal strategies, and operational challenges.
2) Customer questionnaires to assess aspects of value, satisfaction, and loyalty based on consumer perceptions of the main functions of the shop.
3) Direct observation of operations, layout, service, and customer interactions. The questionnaire items were developed using a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). Instrument reliability was tested using Cronbach's α, with all constructs achieving $\alpha > 0.70$.
4) Documentation study of simple financial records, sales records, and business policies.

Data collection was carried out over three months (May–July 2024) to capture variations in both operational performance and customer behavior. Multiple sources of evidence were employed to allow triangulation.

2.4. Research Steps

The overall methodology of this study is illustrated in the research framework presented in Figure X. The framework visualizes the logical flow of the six methodological stages applied, starting from the identification of main functions through the Function Analysis System Technique (FAST) to the final validation and evaluation of the designed BSC-VE system.

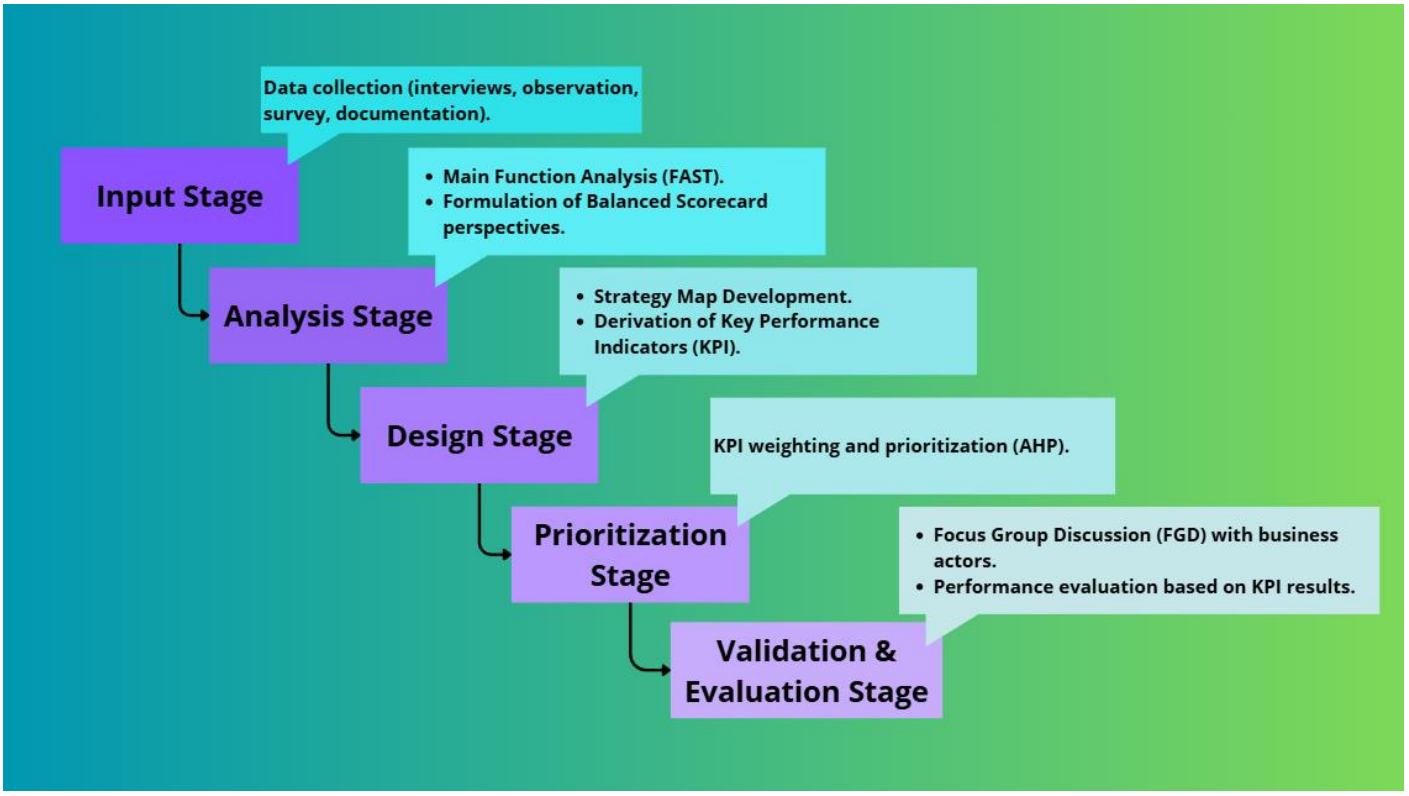

Figure 2. Research Framework of BSC and VE for Madurese Stall

The framework shows the progression from qualitative exploration of business functions to quantitative performance measurement and validation, ensuring that the proposed Balanced Scorecard system integrated with Value Engineering is both contextually relevant and practically applicable for informal micro-enterprises.

The methodology applied includes the following six stages:

1) Main Function Analysis
   The process begins with the identification of the main function of Madurese Stall using the Function Analysis System Technique (FAST), to determine the essential and secondary functions based on the perceptions of customers and business owners. This function is described into elements that provide primary value and efficiency to business operations.
2) Formulation of Balanced Scorecard Perspective
   The four perspectives in the BSC are formulated as the basis for the measurement framework, namely:
   (1) Financial: Cost efficiency and revenue increase.
   (2) Customer: Satisfaction, loyalty, and value perception.
   (3) Internal Business Process: Operational efficiency, inventory management, and service quality.
   (4) Learning and Growth: HR competency, technology adaptation, and innovation.
3) Strategy Map Development
   A strategy map is prepared to visualize the cause-and-effect relationships between strategic objectives in the four perspectives. This helps in understanding the logical flow from improving organizational capabilities to financial goals through customer orientation and process efficiency.
4) Derivation of Key Performance Indicators (KPI)
   Each strategic target is translated into KPIs that are measured quantitatively. KPIs are compiled based on the value-to-cost ratio principle, taking into account their relevance to the identified main functions. To ensure measurement transparency, the following formulas were applied:

   - Achievement (%) = (Actual Result / Target) × 100%
   - Performance Score = Achievement (%) × KPI Weight]

5) KPI Weighting and Prioritization (Optional: AHP)
   For indicators that have multiple criteria, the Analytical Hierarchy Process (AHP) method is used to assess relative priorities based on managerial preferences and contributions to achieving strategic goals.
6) System Validation and Evaluation. Consistency of pairwise comparison matrices was tested using the Consistency Ratio (CR), with CR ≤ 0.10 considered acceptable.
   The designed BSC-VE system is validated through focus group discussions (FGD) with business actors to assess applicability and feasibility. Initial performance evaluation is carried out by calculating performance scores based on actual results compared to KPI targets.

3. RESULT AND DISCUSSION

3.1. Matrix SWOT

The strategic formulation process begins with an assessment of the vision, mission, and objectives of Madurese Stall as a form of informal MSME. This assessment serves as a foundation to align internal aspirations with the development of a contextualized value-based performance system. The company's vision, mission, and objectives include:

1) Vision: To be a pioneer of cafes that are suitable for the lower middle class in the East Surabaya area
2) Mission: Providing food, drinks & standard cafe facilities at affordable prices for the lower middle class.
3) Objective: It is a place to hang out, do assignments, or even just eat and drink with a pleasant cafe atmosphere.

After obtaining the company's vision, mission, and goals, the next step is to compile a SWOT matrix based on these elements to determine the direction of the company's strategy. The SWOT matrix image can be seen in Figure 1 dan Figure 2 as a result of interviews, surveys, and direct observations of several Madurese Stall business units in the Klampis area, Surabaya. This matrix plays an important role in providing a strategic basis that will be used in compiling objectives and performance indicators within the Balanced Scorecard framework.

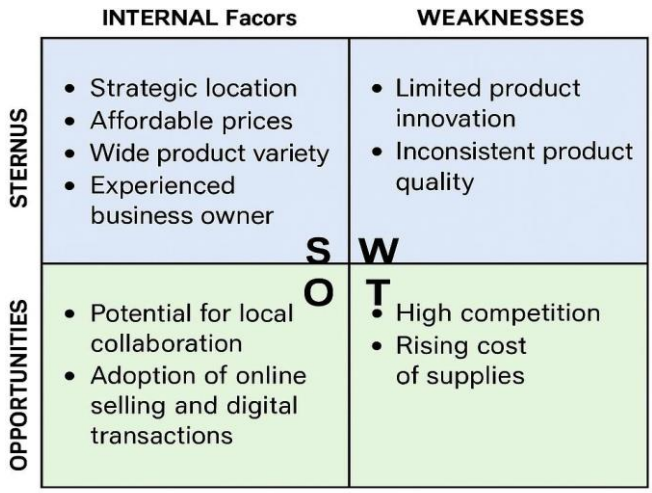

Figure 3. Matrix SWOT

Before implementing the Balanced Scorecard, it is essential to understand Madurese Stall's strategic position through a comprehensive SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis. This matrix serves as an important diagnostic tool to identify internal capabilities and external conditions that influence the formulation of performance objectives. The SWOT matrix below summarizes key insights gained from interviews, field surveys, and observational studies.

Table 1. SWOT Matrix Results

INTERNAL / EKSTERNAL	**Strengths (S)**	**Weaknesses (W)**
	1. Strategic location	1. Limited Innovation
	2. Affordable price	
	3. Many product variations	2. The quality of goods is unstable
	4. Experience of UMKM owners	
Opportunity (O)	S+O	W+O

1. Allows for collaboration or cooperation	(SO1) Expanding cooperation with the surrounding areas to	(WO1) Establish cooperation with other parties in improving the quality of goods and payment access
2. Online sales/receiving orders	(SO2) Improve the quality and access to conducting buying and selling transactions	
Threat	S+T	W+T
1. Presence of competitors	(ST1) Maintaining product quality	(WT1) Maintain

Based on the SWOT Matrix, several main strategies can be formulated:

1) SO Strategy (Strengths–Opportunities): Madurese Stall can take advantage of its strategic location, affordable prices, and product diversity to expand cooperation with the surrounding environment and adopt a digital transaction system, such as delivery services or non-cash payments.
2) WO Strategy (Weaknesses–Opportunities): Limited innovation and unstable product quality can be overcome through collaboration with business partners or suppliers of higher-quality raw materials, as well as improving the payment system for operational efficiency.
3) ST Strategy (Strengths–Threats): In facing competitors and rising material prices, the warung can take advantage of its strengths in business experience and price efficiency to maintain quality and strengthen its market position.
4) WT Strategy (Weaknesses–Threats): To reduce the impact of threats, the warung needs to maintain long-term relationships with customers and suppliers, creating loyalty and supply stability in fluctuating market conditions.

Based on the results of the SWOT analysis, strategic insights were derived that reflect both internal capabilities and external challenges faced by Madurese Stall. These insights provide a logical basis for designing a performance measurement system using the Balanced Scorecard framework, integrated with value engineering principles to ensure each strategic objective is aligned with customer value creation and operational efficiency.

3.2. Quantitative Strategic Analysis using IFE–EFE Matrix

To strengthen the SWOT findings, a quantitative analysis was performed using the IFE and EFE matrices. This method allows internal and external factors to be weighted and rated, producing a composite score that objectively reflects Madurese Stall's strategic position.

Table 2. Internal Factor Evaluation (IFE) Matrix

No	Faktor Internal	Bobot	Rating	Skor
Strengths (S)				
1	Lokasi strategis	0.10	4	0.40
2	Harga terjangkau	0.10	4	0.40
3	Variasi produk banyak	0.08	3	0.24
4	Pengalaman pemilik usaha	0.07	3	0.21
Weaknesses (W)				
5	Inovasi terbatas	0.12	2	0.24
6	Kualitas barang tidak stabil	0.13	2	0.26

The IFE results show a total score of 2.92, indicating that Madurese Stall has relatively strong internal capabilities. The main strengths are location and affordable pricing, while weaknesses such as limited innovation and unstable product quality require attention.

Table 3. External Factor Evaluation (EFE) Matrix

No	Faktor Eksternal	Bobot	Rating	Skor
Opportunities (O)				
1	Potensi kolaborasi/kerjasama	0.12	3	0.36
2	Penjualan online & transaksi digital	0.15	4	0.60
Threats (T)				
3	Kehadiran pesaing	0.08	2	0.16
4	Kenaikan harga bahan baku	0.10	2	0.20

The EFE results also yield a score of 2.92, meaning that Madurese Stall is moderately responsive to external dynamics. Opportunities in online sales and digital payments can be exploited, but challenges remain in dealing with competitors and rising raw material costs.

3.3. IE Matrix Positioning of Madurese Stall

By combining the IFE and EFE scores, Madurese Stall is positioned in Cell V of the IE Matrix.

Table 4. Matriks IE (Internal–External Matrix) Madurese Stall

	EFE Tinggi (3.0–4.0)	**EFE Sedang (2.0–2.99)**	**EFE Rendah (1.0–1.99)**
IFE Tinggi (3.0–4.0)	I (Grow and Build)	II (Grow and Build)	III (Hold and Maintain)
IFE Sedang (2.0–2.99)	IV (Grow and Build)	**V (Hold and Maintain)**	VI (Harvest or Divest)
IFE Rendah (1.0–1.99)	VII (Hold and Maintain)	VIII (Harvest or Divest)	IX (Harvest or Divest)

This position corresponds to the Hold and Maintain Strategy. It suggests that Madurese Stall should focus on market penetration, improvement of service quality, and operational efficiency. This strategic orientation is consistent with the Balanced Scorecard results, confirming that Madurese Stall's sustainability relies on consolidating its current market position while preparing for gradual growth.

3.4. Madurese Stall Performance Evaluation Based on Balanced Scorecard

Based on the strategic insights gained from the SWOT matrix, the next step involved translating these findings into a structured performance evaluation system. The Balanced Scorecard (BSC) was applied to map and measure Madurese Stall's performance across four key perspectives and financial, customer, internal business processes, and learning and growth. This evaluation was guided by value engineering principles to ensure each metric reflected efficiency and customer-oriented value. The results of the SWOT matrix applied to the BCS can be seen in Table 5.

Table 5. Balanced Scorecard (BSC)

No.	**Perspective**	**Strategic Objective**	**Strategic Initiative**
1	Financial	Profit Improvement	Source raw materials from lower-cost suppliers; increase prices for selected items
		Revenue Growth	Enhance customer service and open new branches to boost overall revenue.
2	Customer	Customer Satisfaction	Conduct monthly customer satisfaction surveys; offer loyalty discounts
3	Internal Business Process	Sales System Enhancement	Train employees to serve customers more efficiently; optimize store layout.
4	Learning and Growth	Employee Performance Improvement	Provide training on new products and customer service skills
		New Branch Expansion	Establish new Madurese Stall branches to expand business and increase profitability.

The strategic objectives and initiatives outlined in the table demonstrate a comprehensive alignment between Madurese Stall's operational priorities and the four perspectives of the Balanced Scorecard. From a financial perspective, efforts to improve profit margins and increase revenue reflect a clear emphasis on cost control and business growth through pricing strategy and branch expansion. On the customer side, regular satisfaction surveys and loyalty programs indicate a proactive approach to retaining and understanding consumer preferences. Internally, the focus on optimizing the sales system through staff training and store layout adjustment aims to enhance service efficiency and throughput. Meanwhile, from the learning and growth perspective, investment in employee development and business expansion initiatives reflects a long-term orientation toward organizational capability building and competitiveness. These strategies collectively serve to reinforce value creation both for customers and the enterprise itself, in line with the principles of value engineering.

To operationalize the strategic objectives and initiatives outlined above, each objective is translated into measurable Key Performance Indicators (KPIs) that align with the four perspectives of the Balanced Scorecard. The following table presents Madurese Stall's actual performance results compared to their respective targets, allowing for a quantitative evaluation of the achievement of strategic objectives. The results of the quantitative evaluation obtained can be seen in Table 6

Table 6. Evaluation of KPI Achievement Based on BSC Perspective

Perspective	Strategic Objective	Target	Actual	Achievement (%)
Financial	Profit Increase	500,000	600,000	120.0
Financial	Net Profit Margin	20%	24%	120.0
Financial	Revenue Growth	2,500,000	2,500,000	100.0
Customer	Customer Satisfaction (no. of daily customers)	20	40	200.0
Internal Process	Daily Items Sold	30	65	226.7
Learning & Growth	Employee Contribution to Sales (%)	30%	50%	166.7
Learning & Growth	New Branch Opening	1	1	100.0

The performance evaluation results summarized in the table demonstrate that Madurese Stall has successfully translated its strategic objectives into measurable outcomes, as reflected across all four perspectives of the Balanced Scorecard.

1) Financial Perspective:
   The achievement of 120% in both Profit Increase and Net Profit Margin indicates effective cost control and pricing strategy, likely influenced by sourcing from lower-cost suppliers and selective price adjustments. The Revenue Growth target was met at 100%, suggesting stability in total income generation, even without additional revenue spikes.
2) Customer Perspective:
   The KPI for Customer Satisfaction, measured by the average number of daily customers, reached 200% of the target. This substantial overachievement reflects the effectiveness of loyalty incentives and service improvements. It also indicates increased customer retention and possibly positive word-of-mouth, enhancing Madurese Stall's brand presence within its community.
3) Internal Business Process Perspective:
   The Daily Items Sold metric achieved 226.7%, showing a significant uplift in operational throughput. This can be attributed to optimized store layout, improved transaction flow, and enhanced employee responsiveness, which collectively improved the overall customer experience and transaction volume.
4) Learning and Growth Perspective:
   The Employee Contribution to Sales reached 166.7%, indicating that training programs and skill development initiatives have substantially improved staff productivity and effectiveness. Meanwhile, the New Branch Opening KPI met its target (100%), validating Madurese Stall's capacity for measured expansion without compromising core performance indicators.

The performance analysis across the four Balanced Scorecard perspectives provides a strong foundation for identifying and refining the Key Performance Indicators (KPIs) that are most relevant to Madurese Stall's strategic direction. To ensure ongoing performance tracking and alignment with value-based objectives, a structured set of KPIs is developed in the following section.

3.5. Key Performance Indicator

To enable more systematic performance tracking and continuous improvement, the identified strategic objectives are further translated into Key Performance Indicators (KPIs). These KPIs serve as measurable tools to assess the success of strategic initiatives implemented by Madurese Stall, particularly in enhancing value and operational efficiency. The scoring process for KPI achievement was conducted by triangulating input from three main sources: (1) quantitative business records provided by Madurese Stall owners, (2) qualitative assessments gathered through structured interviews with employees, and (3) customer satisfaction surveys completed by regular consumers. This multi-source evaluation ensures both objectivity and contextual relevance. Table 3 summarizes the defined KPIs, their targets, actual achievements, and performance scores based on the Balanced Scorecard framework.

Table 7. Key Performance Indicators (KPI) Based on Value-Oriented BSC

Perspective	Strategic Objective	KPI	Target	Actual	Achievement (%)	Performance Score	Weight
Financial	Profit Increase	Net Profit (IDR)	500,000	600,000	120	133.3	19.2
		Net Profit Margin (%)	20%	24%	120	—	—
	Revenue Growth	Total Revenue (IDR)	2,500,000	2,500,000	100	—	—

Perspective	Strategic Objective	KPI	Target	Actual	Achievement (%)	Performance Score	Weight
Customer	Customer Satisfaction	Number of purchasing customers per day	20	40	200	200.0	28.84
Internal Business Process	Sales System Enhancement	Number of items sold per day	30	65	226.7	226.7	32.7
Learning & Growth	Employee Performance	Employee contribution to sales (%)	30%	50%	166.7	133.35	19.2
	New Branch Development	Number of new branches	1	1	100	—	—

The KPI analysis shows that Madurese Stall is performing well above its targets in most strategic areas. From the financial perspective, the net profit and margin both exceed expectations (120%), which is a result of optimized cost sourcing and strategic pricing. Although the revenue is stable at 100%, this still indicates healthy financial control.

Under the customer perspective, a 200% increase in daily customer count suggests a significant rise in customer engagement and satisfaction—this directly reflects the success of customer-centric strategies such as loyalty rewards and service improvements.

In terms of internal business processes, the KPI of items sold per day reaching 226.7% of the target highlights an impressive improvement in operational efficiency, driven by improved store layout and staff responsiveness.

From the learning and growth perspective, employee contribution to sales reaching 166.7% demonstrates the effectiveness of training programs and internal capability development. The opening of a new branch, meeting 100% of its target, also signals successful expansion planning aligned with long-term strategic goals.

The performance score and weights assigned further allow for prioritization of KPIs based on their contribution to overall business success, with internal processes and customer satisfaction scoring the highest weights, emphasizing their centrality in value creation.

3.6. Strategy Mapping

After getting the results from the KPI, the next stage is to carry out strategy mapping. The results of the strategy map can be seen in Figure 4.

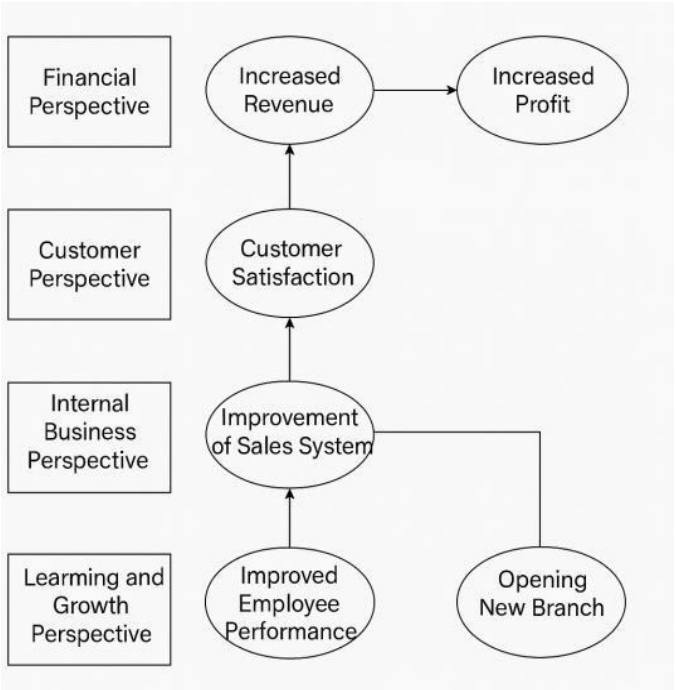

Figure 4. Strategy Mapping

The strategy map illustrates the causal relationship between the four Balanced Scorecard perspectives, starting from the foundation of organizational learning and growth, which enables internal process improvements. These improvements, in turn, enhance customer satisfaction and retention, ultimately leading to financial outcomes such as increased profit and revenue. Each objective on the map is strategically aligned with value engineering principles, ensuring that resources are directed toward functions that deliver the greatest value to customers at the lowest possible cost. This map serves not only as a visual guide for aligning initiatives but also as a reference for cascading measurable goals across different operational levels within Madurese Stall's informal business structure.

RESULT

The results of the performance evaluation of Madurese Stall through the Balanced Scorecard (BSC) approach based on Value Engineering show significant achievements in all four strategic perspectives. From the financial perspective, an increase in net profit of 120% and stable revenue growth of 100% indicate that the cost efficiency and price management strategies have succeeded in increasing profitability without sacrificing service quality. This reflects the main principle of value engineering, namely, increasing value without significantly increasing costs.

The customer perspective shows very prominent performance, with the number of daily customers reaching 200% of the target. This achievement shows the success of the loyalty program, service improvement, and the positive relationship between process efficiency and customer perception of value. These findings strengthen the assumption that in the context of informal MSMEs, improving customer experience can be achieved through simple but focused improvements to the core function of service.

In terms of internal business processes, the number of items sold per day increased by 226.7% compared to the initial target. This increase is directly correlated with the optimization of store layout, employee training, and simplification of the transaction process. This effectiveness shows that even though operating on a micro scale, informal businesses are still able to respond to a systematic approach in process management.

Meanwhile, from the learning and growth perspective, employee contribution to sales reached 166.7% of the target. This result reflects the success of the training carried out in improving employee capabilities and involvement in achieving business goals. The achievement of the target of opening a new branch also shows the readiness of the business to carry out measured expansion, while maintaining performance stability in the main unit.

Overall, the cause-and-effect relationship between the four perspectives in the BSC looks consistent. Strengthening learning and growth contributes to increasing internal process efficiency, which ultimately increases customer satisfaction and results in financial growth. This supports the premise that the integration of value engineering principles into a BSC-based performance measurement system can provide an adaptive strategic approach for informal MSMEs such as Madurese Stall.

This finding also shows that the application of a structured strategic management approach is not only relevant for large companies, but can also be contextually adapted to micro business units with limited resources. As a practical implication, the results of this study encourage the need to develop a broader value-based performance measurement system in other MSMEs as an effort to increase local economic competitiveness sustainably.

4. CONCLUSION

This study aimed to integrate the Balanced Scorecard (BSC) with Value Engineering (VE) as a performance measurement model for Madurese Stall. The findings show that aligning strategic objectives with value-based priorities improves efficiency, customer orientation, and financial performance, as reflected in increased sales, profitability, and customer satisfaction.

Theoretically, the research contributes by adapting the BSC–VE framework to the context of micro and informal enterprises, an area rarely explored in prior studies. Practically, the model offers a simple tool for business owners to identify priorities and monitor performance without requiring complex managerial systems.

Thus, the integration of BSC and VE not only addresses the research objective but also provides broader implications for strengthening the competitiveness of small-scale enterprises in similar contexts.

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