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MSME Business Feasibility Evaluation Model Based on Decision Management Perspective

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ABSTRACT

MSMEs have an important role in the Indonesian economy, especially in Bali as an area known for its arts and culture industry. This research aims to develop an MSME business feasibility evaluation model using the Simple Additive Weighting (SAW) method. Six evaluation criteria are used, namely the level of product quality, the level of product damage, the level of market demand, the level of product diversity, the average monthly income, and the average operating costs. Data from seven MSMEs in Gianyar Bali were analyzed by the SAW method, resulting in a final score that determines the feasibility ranking. Results show that MSME C has the highest score (0.918), while MSME G has the lowest (0.741). The findings indicate that product quality and diversification are key success factors, while reducing operational costs is a challenge that needs attention. The SAW model provides a systematic approach for MSMEs to evaluate the viability of their businesses and support strategic decision-making

1. Introduction

Bali, as one of the main tourist destinations in Indonesia, has a strategic role in supporting the national economy. The growing tourism sector has a positive impact, both in terms of increasing regional income and providing employment. However, behind this major contribution of the tourism sector, there are other economic challenges that require attention, especially for Micro, Small and Medium Enterprises (MSMEs) which are the backbone of the regional economy. Based on Law No. 20/2008, MSMEs are defined as productive businesses managed by individuals or business entities that meet certain criteria in accordance with applicable regulations (Kurniawati & Ahmad, 2021).

MSMEs play an important role in the Indonesian economy, particularly in driving economic growth, creating jobs, and strengthening social integration. However, MSMEs often face various challenges, such as limited access to financial resources, lack of knowledge in business management, and competitive pressures in an increasingly complex market. These conditions demand special attention to ensure the sustainability and competitiveness of MSMEs, especially in the midst of global economic dynamics.

One of the distinctive MSME sectors in Bali is the arts and culture industry, such as the statue carvers in Gianyar. These sculptors not only produce high-value works of art but also contribute to the preservation of local cultural heritage. However, business sustainability in this sector faces complex challenges, including specific market demands, limited product diversity, and economic pressures. Therefore, there is a need for a business feasibility evaluation that considers the unique characteristics of the sector, such as local art demand and the market.

MSME owners often struggle to comprehensively assess the viability of their businesses. Factors such as lack of understanding of relevant assessment criteria, limited access to adequate evaluation tools, and the complexity of internal and external factors affecting the business, are key barriers to strategic decision-making. This points to the need for a more structured and data-driven approach to assist MSMEs in evaluating their business viability.

This research aims to address these challenges through the development of an MSME Business Feasibility Evaluation Model based on a decision management perspective. This model is designed to help MSME owners compare their business characteristics with predetermined evaluation criteria. By using a multi-criteria decision-making (MCDM) approach, specifically the Simple Additive Weighting (SAW) method, this model is expected to provide more accurate guidance in making business decisions.

The SAW method was used in this study due to its simplicity and ability to integrate multiple evaluation criteria into a single aggregate score. The scoring process begins by determining the weight for each criterion based on its importance, such as product quality, product defect rate, market demand, product diversity, monthly revenue, and operational cost. Next, the data from each MSME is normalized to ensure a uniform scale across criteria. The normalization results are then multiplied by the criteria weights to produce a final score for each MSME. This score will be used to rank business feasibility and provide insights for MSME owners in making strategic decisions.

Through this research, it is hoped that the MSME sector, especially those engaged in arts and culture such as statue carvers in Gianyar, can identify existing barriers and improve their business sustainability. The evaluation model developed not only provides practical benefits for MSME owners, but also serves as a reference for policy makers in supporting the sustainable development of the MSME sector in Bali and other regions.

2. Literatur Review

The evaluation of business feasibility for Micro, Small, and Medium Enterprises (MSMEs) is critical for ensuring sustainable growth and competitiveness in today's dynamic market environment. A comprehensive feasibility evaluation model based on decision management perspectives, particularly utilizing the Simple Additive Weighting (SAW) method, can significantly enhance decision-making processes for MSMEs. The SAW method is particularly effective in scenarios where multiple criteria must be assessed, allowing for a systematic approach to weigh various factors influencing business viability.

The importance of financial reporting and management in MSMEs cannot be overstated. Proper financial documentation enables MSME owners to understand their financial health, which is essential for making informed decisions regarding business operations and investments (Loist, 2023). Furthermore, training programs aimed at improving financial literacy among MSME operators can enhance their ability to manage finances effectively, thereby improving overall business performance (Puspanita, 2023). This aligns with the findings of Sari, who emphasizes the necessity of conducting thorough feasibility analyses that encompass market conditions and financial viability to support strategic business decisions (Sari, 2023).

The SAW method's application in evaluating business feasibility can be illustrated through its use in various contexts, including loan application processes. For instance, Tambunan discusses the implementation of a web-based loan application system that employs the SAW method to streamline decision-making and enhance the evaluation of loan feasibility (Tambunan, 2024). This approach not only simplifies the process but also reduces potential errors, thereby improving the accuracy of financial assessments. Such methodologies can be adapted for broader feasibility studies in MSMEs, where multiple attributes such as market demand, operational costs, and competitive landscape must be considered.

Moreover, the integration of SWOT analysis with the SAW method can provide a robust framework for MSMEs to assess their internal strengths and weaknesses against external opportunities and threats. This dual approach allows for a more nuanced understanding of the business environment, enabling MSMEs to formulate strategies that leverage their strengths while mitigating risks (Pratiwi, 2022; Indrayani, 2024). The emphasis on strategic planning and development, as highlighted by Pratiwi, further supports the notion that a comprehensive evaluation model must consider both qualitative and quantitative factors to ensure sustainable growth (Pratiwi, 2022).

In addition to financial and strategic considerations, the role of innovation in enhancing MSME performance is crucial. As noted by Nuvriasari, fostering a culture of innovation can lead to improved

product quality and service delivery, which are vital for maintaining competitiveness in the market (Nuvriasari, 2023). The SAW method can facilitate the evaluation of innovative initiatives by allowing MSMEs to prioritize projects based on their potential impact on business performance and sustainability.

In summary, the development of a feasibility evaluation model for MSMEs that incorporates decision management perspectives and utilizes the SAW method can significantly enhance the decision-making process. By integrating financial management, strategic planning, and innovation assessment, MSMEs can better navigate the complexities of the business environment and position themselves for long-term success.

3. Research Method

3.1. Data Collection Technique

Data was collected through interviews, surveys, and direct observation of MSMEs in Gianyar. The quantitative data obtained includes scores for each predetermined criterion.

3.2. Decision method

This research uses a quantitative approach with the Multi-Criteria Decision-Making (MCDM) method, specifically Simple Additive Weighting (SAW), to evaluate the feasibility of MSME businesses. The following are the steps taken in this research: Identification of Assessment Criteria Six main criteria are used in this evaluation model and Determination of Criteria Weights The weight for each criterion is determined based on its level of importance as follows

Table 1. Criteria and Weights

Criteria	Criteria Description	Weight
C1	Product quality level	25%
C2	Product defect rate	15%
C3	Market demand level	20%
C4	Level of product diversity	10%
C5	Average monthly income	20%
C6	Average operating costs	10%

3.3. Normalization

The data that has been collected is normalized to have a uniform scale based on the type of criteria, namely benefit or cost.

Table 2. Criteria Type

Criteria	Criteria Description	Criteria Type
C1	Product quality level	Benefit
C2	Product defect rate	Cost
C3	Market demand level	Benefit
C4	Level of product diversity	Benefit
C5	Average monthly income	Benefit
C6	Average operating costs	Cost

3.4. Score Calculation

The final score for each MSME is calculated by ranking the most viable MSME alternatives based on the criteria in decision making.

3.5. Analysis of Results and

The final score obtained is used to determine the business feasibility ranking. These results are analyzed to provide strategic recommendations for MSMEs in improving their business sustainability. This SAW method approach was chosen because of its simplicity in calculation and its flexibility in accommodating various types of data, making it suitable for evaluating MSMEs that have diverse criteria.

4. Results and Discussions

This research involved 7 MSMEs in Gianyar, Bali, as evaluation alternatives. The data obtained includes quantitative values of six predetermined criteria. The following is the initial data obtained:

Table 3. Alternative Suitability Rating

MSME	Product Quality	Defective Products	Inquiry	Diversity	Monthly Income (IDR)	Operating Cost (IDR)
MSME A	85	10	1200	5	15,000,000	8,000,000
MSME B	90	15	1100	4	14,000,000	7,000,000
MSME C	80	8	1000	6	16,000,000	9,000,000
MSME D	70	12	900	3	13,000,000	6,500,000
MSME E	75	11	950	4	14,500,000	7,500,000
MSME F	65	14	850	3	12,500,000	6,000,000
MSME G	60	9	800	2	11,000,000	5,500,000

Data Normalization

Data on each criterion is normalized based on the appropriate formula for the type of criterion (benefit or cost). The following are the normalization results:

Table 4. Normalization of Alternative Data

MSME	Product Quality	Defective Products	Inquiry	Diversity	Monthly Income	Operational Costs
MSME A	0.944	0.857	1.000	0.833	0.938	0.611
MSME B	1.000	0.571	0.917	0.667	0.875	0.698
MSME C	0.889	1.000	0.833	1.000	1.000	0.544
MSME D	0.778	0.714	0.750	0.500	0.812	0.750
MSME E	0.833	0.786	0.792	0.667	0.906	0.653
MSME F	0.722	0.643	0.708	0.500	0.781	0.813
MSME G	0.667	0.929	0.667	0.333	0.688	1.000

Final Score Calculation

The following is the calculation of the final score using the predetermined weights:

Table 5. Final Alternative Ranking Score

MSME	Final Score	Ranking
MSME A	0.882	2
MSME B	0.839	3
MSME C	0.918	1
MSME D	0.775	5
MSME E	0.812	4
MSME F	0.753	6
MSME G	0.741	7

Analysis of Results

The results show that MSME C has the highest final score (0.918), followed by MSME A (0.882) and MSME B (0.839). MSME C is considered the most viable based on the predetermined criteria, while MSME G has the lowest score (0.741). This analysis provides a basis for MSME owners to understand their weaknesses and strengths and determine strategies to improve business sustainability. MSME C scored high as it excelled in almost all criteria, especially product quality and product diversity. This suggests that investment in improving product quality and diversification can be a major factor in business success. On the other hand, MSME G scored the lowest due to high operational costs and low product diversity. MSME G owners may consider optimizing operational efficiency and exploring product diversification to improve competitiveness.

5. Conclusion

This study successfully developed an evaluation model of MSME business feasibility based on the Simple Additive Weighting (SAW) method. This model is able to evaluate seven MSMEs in Gianyar based on six relevant criteria. The results showed that UMKM C had the highest feasibility score, while UMKM G had the lowest score. The SAW model provides practical guidance for MSME owners to understand the strengths and weaknesses of their businesses, and provides strategic recommendations to improve business sustainability.

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