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BMT Microfinance Management Model: Developing Sharia Financing Instruments for Sharia-Based MSMEs	Vol. 3, No. 2, 2026 (Pp. 21-32) https://journal.upy.ac.id/index.php/qrobss https://doi.org/10.31316/crobss.v3i2.8891
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Received: November 2025 Revised: December 2025 Accepted: January 2026 Online: May 2026	ABSTRACT This study examines the use of Baitul Maal wa Tamwil (BMT) microfinance to support Sharia-based Micro, Small, and Medium Enterprises (MSMEs) by analyzing capital management behavior and Islamic financial literacy. Using purposive sampling, a total of 59 Sharia-compliant MSME operators in the Special Region of Yogyakarta were surveyed through structured questionnaires that capture indicators of Sharia capital foundations, microfinance utilization, and operational financing support. The collected data were analyzed using Exploratory Factor Analysis (EFA) to identify the latent constructs underlying MSME behavior in adopting BMT-based financing. The EFA results extracted three dominant factors—Sharia-Based Capital Foundations, Function of Sharia Microfinance Utilization, and Operational and Innovation Support Through Sharia Financing—which jointly explain 51.821% of the total variance. These findings demonstrate that BMT plays a significant role in providing halal-based capital, supporting MSME operational efficiency, and strengthening innovation capacity within a Sharia-compliant framework. The study provides empirical evidence on the importance of Sharia microfinance institutions in enhancing MSME sustainability and contributes a model that may be adapted to emerging Sharia-based MSME ecosystems in other countries, such as the Philippines.
Keywords: <i>Baitul Maal wa Tamwil (BMT), Capital Management, Microfinance, MSME</i>	

1. Introduction

Indonesia's economy has undergone numerous rapid and significant transformations, driving economic stability amid current recessionary challenges. One of the key sectors affected by these changes is the Micro, Small, and Medium Enterprises (MSMEs) sector, which is highly sensitive to shifts in economic conditions. However, MSMEs hold enormous potential to improve public welfare, as reflected in their three main contributions to the Indonesian economy: promoting equitable income distribution among lower-income groups, reducing poverty, and generating foreign exchange earnings for the nation. MSMEs are a major contributor to Indonesia's Gross Domestic Product (GDP). Nevertheless, MSMEs still face several challenges, the most pressing of which are limited access to financial services and capital management. The financial difficulties encountered by MSMEs are not only related to funding constraints but also include issues of financial and administrative management. Naturally, this poses a challenge, as the majority of MSMEs in Indonesia, around 54.52 percent, are run by entrepreneurs whose educational background extends only to the primary school level (Adli et al., 2023).

One reason for the low level of credit distribution by formal lenders, particularly banks, is the high degree of caution these institutions exercise in extending credit to MSME actors. This caution arises because credit providers are often unable to properly assess the actual condition and performance of MSMEs, which ideally should be reflected in their financial statements. The administrative requirement to access financing, specifically the preparation of

MSME financial reports, remains difficult for many MSME operators to meet due to their limited financial literacy. This includes their limited ability and knowledge to manage and record financial transactions, which in turn reduces their opportunities to obtain financing from credit-providing institutions (Pratama & Wijayangka, 2019).

However, many MSMEs also apply Sharia principles in conducting their business activities. Sharia financial inclusion and Sharia-based capital management pose major challenges for MSMEs committed to operating in accordance with Islamic values. These challenges arise because not all financial institutions offer facilities that are fully compliant with Sharia principles, particularly for small business owners who still require access to capital to expand their enterprises (Purwanto et al., 2021; Suwarsi et al., 2022). The main issue that often arises is the presence of *riba* (usury) when MSMEs use services provided by conventional banks. The interest-based system applied by these banks is considered to contradict Sharia principles, as it contains elements of unfairness in transactions. This has led many Sharia-based MSME operators to hesitate to obtain financing from conventional financial institutions, even when additional capital is urgently needed to maintain the continuity of their businesses (Sulistiawati et al., 2024).

On the other hand, financing from Islamic banks also presents its own challenges, particularly regarding the profit-sharing ratio (*nisbah*), which many MSME operators consider to be too high. This situation can place pressure on profit margins and reduce flexibility in managing business cash flow (Salama & Azizah, 2023). Therefore, a more suitable solution for Sharia-based MSMEs is to utilize microfinance institutions such as *Baitul Maal wa Tamwil* (BMT). BMTs play an important role in providing fair access to capital through more equitable profit-sharing principles, while also supporting sustainable community economic empowerment in line with Islamic values (Fadlullah & Lupita, 2022).

A more suitable solution for Sharia-based MSMEs is to make use of microfinance institutions such as *Baitul Maal wa Tamwil* (BMT). Within the concept of Sharia partnership, BMT acts as the *shahibul maal* or capital owner, while the MSME operator serves as the *mudharib* or capital manager. Through this system, the relationship between BMT and MSME actors is founded on trust, fairness, and a principle of proportional profit sharing agreed upon by both parties (Rohman et al., 2021; Wijiharta, 2019). The vital role of BMT extends beyond merely providing financing; it also functions as a mentor and an agent of community economic empowerment. The advantages of BMT over Islamic banks lie in its closer relationship with local communities, simpler financing procedures, more flexible profit-sharing ratios, and a stronger orientation towards socio-economic empowerment rather than pure profit-making. Thus, BMT serves as an ideal alternative for MSMEs seeking growth while remaining fully compliant with Sharia principles (Idris et al., 2023; Komariah & Tulasmi, 2022).

The sample selection in this study focuses on MSMEs operating under Sharia principles in the Special Region of Yogyakarta (DIY). This region was chosen because it possesses social and economic characteristics that support the growth of businesses rooted in Islamic values, and it is also home to numerous Sharia microfinance institutions, including BMTs, that actively finance. Furthermore, Yogyakarta is known as a city of education and a center for creative entrepreneurship, which means that MSME operators in the area exhibit varying levels of

financial literacy, making them a suitable group for assessing understanding and implementation of Sharia-based capital management principles. Therefore, selecting Sharia MSMEs in DIY is expected to yield research findings that are both relevant and generalizable to other regions in Indonesia with similar characteristics (Budiarto et al., 2021; Solekha et al., 2021).

Based on the above explanation, the purpose of this study is to determine the level of capital management literacy among MSMEs that obtain financing from Baitul Maal wa Tamwil (BMT). This research is expected to provide an overview of the extent to which MSME operators understand Sharia-based principles of capital management, as well as the effectiveness of BMT's profit-sharing system in supporting their business growth (Sazly et al., 2023; Shomad, 2017). In addition, this study has international relevance, particularly for the Philippines, which has recently begun to develop MSMEs based on Sharia principles but does not yet have microfinance institutions such as BMT. Therefore, the findings of this research may serve as a model for implementing Sharia microfinance institutions that could be adapted in the Philippines to promote community economic empowerment based on Islamic values (Salic & Manalundong, 2020).

Although several previous studies have examined the role of BMT in the development of MSMEs and Sharia financial inclusion, there remains a research gap concerning the structure of Sharia financial literacy and its relationship with MSME capital management. Studies conducted by Akbar & Siti-Nabiha (2022); Febrianti & Fitriani (2024); Setyowati et al. (2021) have mainly focused on the influence of specific variables and placed greater emphasis on the transactional cost aspects of BMT financing, while largely limiting their scope to measuring the performance success of Islamic banks alone. In contrast, this study examines indicators of Sharia financial inclusion, focusing on the use of BMT microfinance for capital management among MSMEs. Moreover, this research employs Exploratory Factor Analysis (EFA) to identify the key indicators and items related to capital management through microfinancing provided by BMT (Retnowati et al., 2017; Shrestha, 2021).

Given the increasing strategic significance of Sharia-based MSMEs within the Islamic economic framework and the expanding institutional role of BMT-based microfinance in facilitating Sharia-compliant entrepreneurial financing, the development of a structured, empirically validated measurement model for Sharia-based capital management remains underexplored. This study, therefore, addresses the following research question: How can a questionnaire model of Sharia-based MSME capital management for enterprises utilizing BMT-based microfinance be conceptually developed and empirically validated? Accordingly, the objective of this research is to construct and examine a measurement model of Sharia-based MSME capital management, using Exploratory Factor Analysis (EFA) to identify the underlying constructs that capture the integration of Islamic financial literacy and BMT-based microfinance practices in promoting sustainable MSME development.

2. Method

This study employs a qualitative approach, with data collected through questionnaires distributed to Sharia-based MSME operators. The research instrument includes several key constructs: MSME capital management, Sharia financial literacy, Sharia financial inclusion,

and microfinance through Baitul Maal wa Tamwil (BMT) (Barus et al., 2024). Each construct is measured using a series of Likert-scale (1–5) statements derived from existing theories and prior studies.

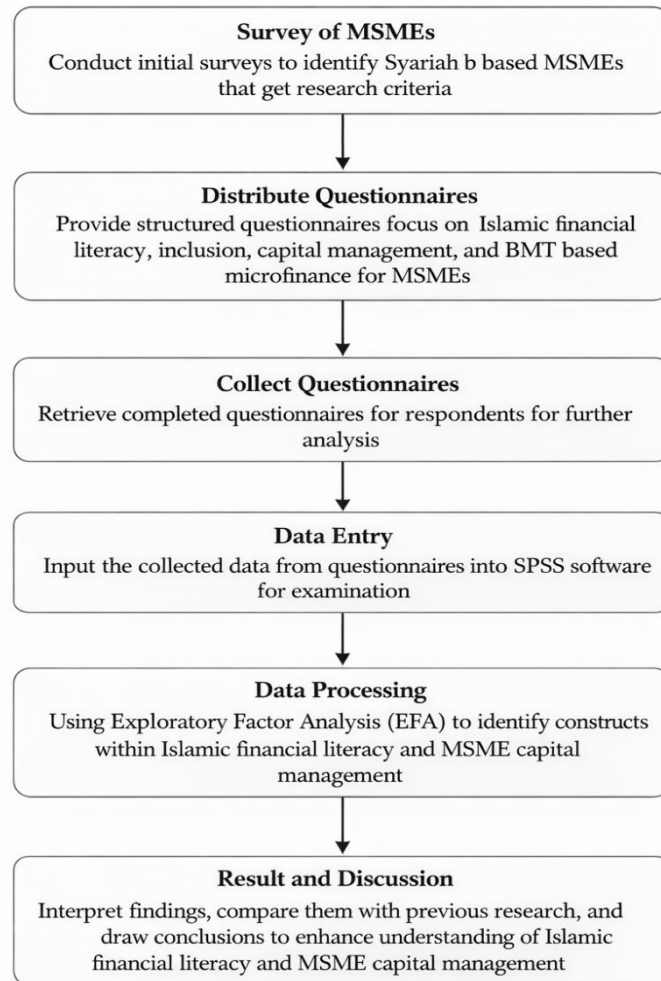


Figure 1. Analysis Data Method

The collected data are then analyzed using Exploratory Factor Analysis (EFA) to identify the latent factor structures underlying each construct. Through EFA, this study seeks to identify the key dimensions of Sharia financial literacy and MSME capital management associated with BMT's role as a Sharia microfinance institution. The results of this analysis are expected to provide a mapping of the key factors influencing the effectiveness of Sharia-based financing in strengthening MSME performance and sustainability in Indonesia, and to serve as a conceptual model that can be applied in other countries, such as the Philippines (Salic, 2024). The population in this study comprises all MSME operators located in the Special Region of Yogyakarta (D.I. Yogyakarta). The sampling method used in this research is purposive sampling, a non-probability sampling technique in which sample selection is based on specific considerations or criteria aligned with the research objectives. The sample criteria applied in this study are as follows:

- a. MSMEs located in D.I. Yogyakarta province
- b. MSMEs that utilize BMT-based microfinance (Suwarsi et al., 2022).

- c. MSMEs that are still actively conducting business operations (Hadi et al., 2023; Kusuma et al., 2022).
- d. MSMEs with at least two employees (Hadi et al., 2023; Margareta et al., 2023).

The research implementation begins with a survey of MSMEs, conducted to identify Shariah-based enterprises that meet the research criteria. After selecting appropriate participants, structured questionnaires are distributed to focus on Islamic financial literacy, inclusion, capital management, and BMT-based microfinance. Once the questionnaires are completed, the next step is to collect participants' responses for further analysis. The collected data are then entered into statistical software for examination and preparation for analysis. Subsequently, the data processing stage utilizes Exploratory Factor Analysis (EFA) to identify and validate underlying constructs related to Islamic financial literacy and MSME capital management. Finally, the discussion phase interprets the findings and compares them with previous studies to provide meaningful insights into the role of BMT in strengthening Shariah-based MSMEs (Shrestha, 2021).

3. Results & Discussion

3.1. Preparing Respondents and Item Questionnaires

This study employs purposive sampling, selecting participants based on criteria relevant to the research objectives. The respondents in this study are MSME operators operating within the Special Region of Yogyakarta Province, applying Sharia principles in their operations, and obtaining financing or microfinance facilities from Baitul Maal wa Tamwil (BMT) as a source of business capital. The selection of the Special Region of Yogyakarta is based on the region's strong growth of Sharia-based MSMEs and the active presence of BMT networks that support community-based business financing. A total of 63 MSMEs that met these criteria were observed. Data were collected by distributing 63 questionnaires directly to 63 respondents, each representing one valid unit of analysis. This approach ensures that the selected sample conceptually aligns with the research focus on capital management and Sharia-based financing through BMT.

Table 1. Questionnaires Distribution

Annotation	Total	Percentage
Number of questionnaires distributed	63	100%
Number of incomplete questionnaires	(2)	(3%)
Number of unfilled questionnaires	(2)	(3%)
Number of processed questionnaires	59	94%

Based on the research conducted by Barus et al. (2024); Kurnia & Andriani (2023); Setiawati et al. (2018); Solekha et al. (2021); Wibowo et al. (2025), the questionnaire instrument in this study was designed to measure aspects of Sharia-based financing management among MSMEs operating under Islamic principles. Each statement item was systematically constructed to reflect practices in Sharia-based capital management, thereby enabling the results to provide an empirical overview of the relationship among Sharia financial literacy, access to financing, and the performance of Sharia-based MSMEs. The question items collected from several studies are as follows:

- a. MSMEs operating under Sharia principles require Sharia-compliant financing.
- b. Capital is not limited to money but may also take the form of assets acquired through lawful (halal) means.
- c. MSMEs must maintain retained capital.
- d. Sharia financing in the form of Qardhul Hasan serves as a safety mechanism during emergencies, without the risk of interest (riba).
- e. Sharia financing through mudharabah and musyarakah also supports business innovation.
- f. MSME operations can run more efficiently when using Sharia-compliant financing, as it involves no interest or riba.
- g. MSMEs require additional capital from Sharia-based financing through BMT, as it aligns with Islamic principles and offers fair profit-sharing.
- h. Additional capital from Sharia financing can increase sales.
- i. High interest rates can hinder MSME growth.

Based on the questionnaires collected from respondents, the next step is to process the data using EFA to obtain an initial overview of the dimensions formed from the question items distributed to participants. These dimensions group the items according to their underlying factors. The first stage involves testing sample adequacy using the KMO and Bartlett tests. Table 2 presents the results of these tests, showing that the sample used in this study is adequate, as indicated by a KMO Measure of Sampling Adequacy value above 0.5 (0.613). In addition, Table 1 also shows that each item has sufficient correlation to form a dimension, as reflected in the Bartlett's Test of Sphericity significance value of 0.000, which is below 0.05 (Costello & Osborne, 2005; Shrestha, 2021).

Table 2. KMO and Bartlett's test

Test	Value
KMO Measure of Sampling Adequacy	0.613
Bartlett's Test of Sphericity	0.000

Table 3. Eigenvalues

Factor	Total Initial	Initial Cumulative %	Cumulative %
1	2.549	28.320	19.404
2	2.128	51.965	38.299
3	1.159	64.842	51.821
4	0.593	76.240	
5	0.494	82.830	
6	0.434	88.315	
7	0.391	97.484	
8	0.226	100.000	

The second stage examines how many dimensions or factors are formed from the nine question items. Table 3 shows that three underlying factors are extracted, explaining 51.82% of the total variance across all items. This is indicated by three initial eigenvalues greater than 1 and a cumulative eigenvalue percentage of 51.821. The third stage determines which items load onto the first, second, and third factors. Table 3 shows that Items 1, 2, 3, and 4 load onto Factor 1; Items 7, 8, and 9 load onto Factor 2; while Items 5 and 6 load onto Factor 3. The fourth stage involves assigning names to these dimensions according to the grouping results in Table 4. Table 5 presents the factor-naming scheme: the first factor is labeled "Sharia-Based

Capital Foundations"; the second is "Function of Sharia Microfinance Utilization"; and the third is "Operational and Innovation Support Through Sharia Financing".

In Exploratory Factor Analysis (EFA), the rotated factor matrix is used to improve the interpretability of the factor structure by clarifying the relationships between observed variables and underlying latent factors. Rotation helps ensure that each item loads strongly on one factor and weakly on others, making factor groupings more distinct and meaningful without altering the total explained variance. Factor loadings in the rotated matrix indicate the strength of association between items and factors. Orthogonal rotations (e.g. Varimax) assume factors are uncorrelated, while oblique rotations (e.g. Promax) allow correlations between factors, which is often appropriate in social and accounting research. Overall, the rotated factor matrix supports factor interpretation, construct validation, and the development of reliable measurement instruments in accounting studies.

Table 4. Rotated Factor Matrix

Item	Factor		
	1	2	3
1	0.464		
2	0.650		
3	0.805		
4	0.403		
5			0.974
6			0.414
7		0.762	
8		0.915	
9		0.458	

Based on Table 4, which presents the results of the rotated factor matrix, the questionnaire model can be explained in Table 5, which outlines the corresponding factors and their associated items. Table 5 presents the questionnaire model derived from the rotated factor matrix and illustrates how the nine measurement items are systematically grouped into three distinct factors. The first factor, *Sharia-Based Capital Foundations*, reflects a fundamental understanding of capital in Sharia-based MSMEs, emphasizing the need for Sharia-compliant financing, the concept of halal capital in both monetary and asset forms, the importance of retained capital, and the role of Qardhul Hasan as an emergency financial safeguard free from *riba*. The second factor, *Function of Sharia Microfinance Utilization*, highlights the functional role of Sharia microfinance in supporting business efficiency and innovation, particularly through profit-sharing contracts such as *mudharabah* and *musyarakah*, and by avoiding interest-based financing. The third factor, *Operational and Innovation Support Through Sharia Financing*, captures the strategic importance of additional Sharia-based capital—particularly through BMT—in enhancing sales performance and business growth, while also reflecting MSME perceptions of high interest rates as a barrier to development. Overall, Table 5 demonstrates that the questionnaire items coherently represent key dimensions of Sharia capital management and microfinance utilization among MSMEs, supporting the construct validity of the proposed measurement model.

Based on the questionnaires collected and processed using EFA, the next step is to analyze the data to obtain a further description of MSME behavior in using microfinance services through BMT. The questionnaire data were first analyzed using descriptive statistics

to identify respondent categories by level of utilization of Sharia financial services. This descriptive stage provides a foundational understanding before moving on to further analysis, ensuring that the data structure obtained aligns with the research requirements for capital management and Sharia-based financing through BMT.

Table 5. Factor and Item

Factor	Item
Sharia-Based Capital Foundations	1. MSMEs operating under Sharia principles require Sharia-compliant financing.
	2. Capital is not limited to money but may also take the form of assets acquired through lawful (halal) means.
	3. MSMEs must maintain retained capital.
	4. Sharia financing in the form of Qardhul Hasan serves as a safety mechanism during emergencies, without the risk of interest (riba).
Function of Sharia Microfinance Utilization	5. Sharia financing through mudharabah and musyarakah also supports business innovation.
	6. MSME operations can run more efficiently when using Sharia-compliant financing, as it involves no interest or riba
Operational and Innovation Support Through Sharia Financing	7. MSMEs require additional capital from Sharia-based financing through BMT, as it aligns with Islamic principles and offers fair profit-sharing.
	8. Additional capital from Sharia financing can increase sales.
	9. High interest rates can hinder MSME growth

Table 6. Respondent Statistics Interval

Factor	Interval	Categories	
Sharia-Based Capital Foundations	2,4	3 – 5,4	Very Low
		5,41 – 7,8	Low
		7,81 – 10,2	Medium
		10,21 – 12,6	High
		12,61 – 15	Very High
Function of Sharia Microfinance Utilization	2,4	3 – 5,4	Very Low
		5,41 – 7,8	Low
		7,81 – 10,2	Medium
		10,21 – 12,6	High
		12,61 – 15	Very High
Operational and Innovation Support Through Sharia Financing	2,4	3 – 5,4	Very Low
		5,41 – 7,8	Low
		7,81 – 10,2	Medium
		10,21 – 12,6	High
		12,61 – 15	Very High

Table 6 shows that the Sharia-Based Capital Foundations factor has a mean value of 13.34 and a standard deviation of 1.321, placing it in the very high category. This indicates that MSME operators require substantial capital when starting their businesses. Such capital is not limited to cash but also includes assets such as business land. Moreover, MSMEs must retain a portion of their profits that is not distributed to ensure business continuity and development. Table 6 also shows that the Function of Sharia Microfinance Utilization factor has a mean value of 13.12 and a standard deviation of 1.274, also falling within the very high category. This demonstrates that MSME operators rely heavily on capital as a safety net during emergencies and as a driver of business innovation. Additionally, sufficient capital is required for business operations to run efficiently.

Table 7. Interpretation of Respondent Categories

Indikator	Mean	Deviation Standard	Categories
Sharia-Based Capital Foundations	13.34	1.321	Very high
Function of Sharia Microfinance Utilization	13.12	1.274	Very high
Operational and Innovation Support Through Sharia Financing	11.39	2.068	High

Meanwhile, the Operational and Innovation Support Through Sharia Financing factor, as shown in Table 6, has a mean of 11.39 and a standard deviation of 2.068, placing it in the high category. This indicates that MSME operators need additional capital from bank credit or financing. Such additional capital is crucial to support efforts to increase sales, such as expanding production capacity, expanding distribution networks, and enhancing marketing strategies. When access to this capital is limited, MSMEs struggle to grow and compete in the market, ultimately hindering business performance and sustainability. Overall, the Sharia-Based Capital Foundations factor has the highest mean value, at 13.34. The largest standard deviation is found in the Operational and Innovation Support Through Sharia Financing factor, at 2.068. Based on this standard deviation, it can be concluded that MSME responses to this factor are the most heterogeneous among the indicators.

4. Conclusion, Limitation & Suggestion

This study involved 59 Sharia-based MSMEs that met the minimum standard for conducting Exploratory Factor Analysis (EFA) in social research. This adequacy is supported by the KMO Measure of Sampling Adequacy value of 0.613, which exceeds the minimum threshold of 0.5. A KMO value above 0.5 indicates that the sample is sufficient for EFA (Costello & Osborne, 2005). Based on the extraction of the nine items, the factor structure clearly formed into three main factors, as shown in Table 3. These three factors are Sharia-Based Capital Foundations, Function of Sharia Microfinance Utilization, and Operational and Innovation Support Through Sharia Financing. The emergence of these three factors aligns with empirical findings in Sharia microfinance studies, which emphasize the importance of halal capital foundations, the functional use of Sharia-based financing, and support for operational activities and innovation.

Although the cumulative variance of 51.821% meets the commonly accepted minimum requirement of 50% for social research, this level of variance contribution is not yet sufficient to fully capture the dynamics of BMT utilization among MSMEs. Therefore, while the factor model is considered adequate, it still has room for empirical strengthening. The main limitation of this study is that the cumulative variance only slightly exceeds the minimum threshold, meaning it has not captured the full breadth of the phenomenon. Future research is recommended to increase the number of indicator items and expand the sample size to enhance explained variance. This would strengthen the factor structure and provide a more comprehensive understanding of the causal relationships related to the role of Sharia-based BMT financing in supporting capital management among Sharia-based MSMEs (Retnowati et al., 2017; Shrestha, 2021).

This study demonstrates that the BMT-based microfinance model in the Special Region of Yogyakarta operates as a systemic mechanism in strengthening Sharia-based MSME capital

management. Based on empirical data from 59 Sharia-compliant MSMEs utilizing BMT financing, three principal factors were identified: Sharia-Based Capital Foundations, Function of Sharia Microfinance Utilization, and Operational and Innovation Support Through Sharia Financing, which collectively explain 51.821% of the total variance. The high-to-very-high mean scores indicate that MSME operators not only possess a strong understanding of halal capital principles but also actively use BMT financing to enhance operational efficiency, support business innovation, and mitigate financial risks through instruments such as qardhul hasan. These findings confirm that BMT functions not merely as a financial intermediary but as a community-based economic empowerment institution that integrates Islamic financial literacy with sustainable capital management practices.

In the Philippine context, particularly in Mindanao, the development of Muslim MSMEs has not yet been supported by a structured Islamic microfinance institution comparable to BMT. Although awareness of Islamic economic principles is increasing, the Islamic microfinance infrastructure remains limited, and many entrepreneurs continue to rely on informal financing mechanisms or conventional financial systems. Therefore, the Yogyakarta BMT model may serve as an institutional prototype for developing community-based Islamic microfinance institutions in the Philippines, especially within the policy framework of the Bangsamoro Autonomous Region. The adaptation of this model has the potential to improve access to halal financing, strengthen Islamic financial literacy, and enhance the resilience and sustainability of Muslim MSMEs in the Philippines in a more systematic and integrated manner.

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