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The mediating role of msme development in the relationship between productive zakat empowerment, mentoring, and mustahik welfare: evidence from PLS-SEM

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ABSTRACT

Productive zakat has been widely implemented to improve the economic welfare of mustahik through business capital assistance and mentoring. However, the effectiveness of these programs in enhancing welfare through the development of micro, small, and medium enterprises (MSMEs) has remained underexplored. This study examined the effects of productive zakat empowerment and mentoring on mustahik welfare, with MSME development as a mediating variable, at BAZNAS North Sumatra Province. A quantitative explanatory approach was employed using Partial Least Squares-Structural Equation Modeling (PLS-SEM). Data were collected through questionnaires, interviews, and documentation from 180 mustahik participating in the productive zakat program during 2020–2024. The findings indicated that productive zakat empowerment and mentoring had positive and significant effects on both MSME development and mustahik welfare. MSME development also had a positive and significant effect on mustahik welfare and partially mediated the relationships between productive zakat empowerment, mentoring, and welfare. These findings suggested that integrating productive zakat with sustainable mentoring and business development strategies could strengthen the long-term economic independence and welfare of mustahik.



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Introduction

The welfare of society is the primary key to a nation's progress. Islam provides a set of economic instruments designed to achieve distributive justice, comprising zakat as a fiscal obligation, infaq and sadaqah as voluntary social concern, and waqf as a long-term social financing instrument. Together, these instruments form an Islamic social finance ecosystem directed at breaking the cycle of poverty and creating equitable welfare for the ummah (Qardhawi, 1999). The institutional practice of zakat has existed since the time of the Prophet Muhammad (SAW) through the Baitul Mal system, and during the era of Caliph Umar bin Khattab it developed into an economic redistribution institution proven capable of massively reducing poverty (Karim, 2017). This institutional spirit was transformed within the Indonesian context through Law No. 23 of 2011 on Zakat Management, which affirms the position of the National Zakat Amil Agency (BAZNAS) as the government's strategic partner in strengthening mustahik's economy through productive enterprises. Productive zakat refers to the utilization of zakat funds as business capital to enhance the sustainable economic independence of

mustahik, accompanied by ongoing mentoring through training, consultation, monitoring, and business evaluation (Fathin, 2023). Data on the development of poverty rates in Indonesia can be seen in Table 1 below.

Table 1 <Number of Poor People in Indonesia, 2020–2024>

No	Year	Number of Poor People (Million People)	Percentage (%)
1	2020	26,42	9,78
2	2021	26,50	9,71
3	2022	26,36	9,57
4	2023	25,90	9,36
5	2024	25,22	9,03

Sumber: Badan Pusat Statistik dan World Bank (data diolah, 2025)

Table 1 shows a gradual downward trend in poverty, from 9.78 percent in 2020 to 9.03 percent in 2024. Nevertheless, the absolute number of poor people, which still reaches tens of millions, underscores that poverty alleviation efforts remain an urgent development agenda, with the optimization of the productive zakat instrument serving as one strategic acceleration mechanism. A similar condition also occurs in North Sumatra Province, as shown in Table 2 below.

Table 2 <Number of Poor People in North Sumatra Province, 2020–2024>

No	Year	Number of Poor People (Thousand People)	Percentage (%)
1	2020	1.283,29	8,75
2	2021	1.343,86	9,01
3	2022	1.268,19	8,42
4	2023	1.239,71	8,15
5	2024	1.228,01	7,99

Sumber: Badan Pusat Statistik (data diolah, 2025)

Table 2 shows that although the poverty rate in North Sumatra declined from 8.75 percent in 2020 to 7.99 percent in 2024, the absolute number of poor people, still exceeding 1.2 million, indicates that economic empowerment interventions based on zakat, infaq, and sadaqah (ZIS) through BAZNAS programs remain relevant and strategic to optimize. Imsar, (2023) shows that the majority of productive zakat recipients (mustahik) in North Sumatra are micro business actors with low income levels and are vulnerable to economic instability. One institution actively implementing productive zakat-based economic empowerment is BAZNAS North Sumatra Province. Through the Sumut Makmur and E-Mustahik Preneur programs, BAZNAS North Sumatra Province provides business capital assistance, entrepreneurship training, business coaching, and economic mentoring for micro-business mustahik, as reflected in Table 3 below.

Tabel 3 <Data on the Number of Mustahik MSMEs Assisted by BAZNAS North Sumatra, 2020–2024>

No	Year	Number of Assisted MSME Mustahik	Description
1	2020	16 Mustahik	Focused on consumptive assistance and initial business capital during the COVID-19 pandemic.
2	2021	21 Mustahik	Implementation of an economic recovery program for mustahik.
3	2022	46 Mustahik	Increased allocation of productive zakat funds.
4	2023	48 Mustahik	Strengthening of the productive zakat-based MSME empowerment program.
5	2024	56 Mustahik	Expansion of the E-Mustahik Preneur Program.
	Total	187 Mustahik	Recipients of productive business capital assistance.

Sumber: BAZNAS Sumatera Utara 2025 (Data diolah)

However, this increase in the number of beneficiaries has not been fully proportional to an optimal improvement in the quality of mustahik welfare. Around 60 percent of mustahik receiving the productive zakat program have been able to sustain their businesses, but this survival capacity is influenced more by prior business experience and individual capacity already possessed before receiving assistance, rather than by the effectiveness of the empowerment program itself. Ariyadi et al., (2025) emphasize that the success of productive zakat in improving mustahik welfare is strongly influenced by the sustainable success of productive business development. A fundamental problem exacerbating this condition is that the program's orientation still tends to rely on a charity approach rather than an empowerment approach based on capacity strengthening (Fatchurrohman & Asifa, 2023). This phenomenon is reinforced by the discontinuation of the qardhul hasan scheme at BAZNAS North Sumatra Province since 2022 due to fund repayment constraints among some

beneficiaries, which indicates the still-weak managerial capacity and financial literacy of mustahik. Saputri & Randyantini (2024) found that mustahik who received intensive mentoring achieved a better level of business success compared to mustahik who only received capital assistance without further coaching.

Theoretically, productive zakat empowerment is grounded in Empowerment Theory, which emphasizes strengthening individual capacity so that people can access and control their economic resources independently (Rappaport, 1987), as well as the Capability Approach, which asserts that welfare is measured by an individual's ability to utilize resources to achieve a productive and meaningful life (Amartya Sen, 2001). MSME development, as an indicator of business success, is explained through Business Growth Theory (Penrose, 1959), which states that business growth is determined more by entrepreneurs' internal ability to optimize productive services than by external market factors alone. A proposition highly relevant here, since productive zakat capital accompanied by structured mentoring is essentially an effort to strengthen mustahik's internal productive capacity.

A number of previous studies confirm the positive effect of productive zakat and mentoring on mustahik welfare and business development (Atika Suri, 2021). However, these studies generally examine partial direct effects and have not integrated productive zakat empowerment, mentoring, MSME development, and mustahik welfare into a single comprehensive analytical model. Pohan et al. (2024) affirmed that weak business mentoring is a dominant factor limiting the effectiveness of productive zakat programs but did not empirically explain the mediating mechanism underlying this relationship. This gap constitutes the scientific justification for the present study, which positions MSME development as a mediating variable explaining how productive zakat empowerment and mentoring translate into improved mustahik welfare within the context of BAZNAS North Sumatra Province. Furthermore, although previous studies have reported significant relationships among these constructs, limited empirical evidence has simultaneously examined both the direct and indirect effects using a variance-based structural equation modeling approach. Consequently, the underlying mechanism through which productive zakat empowerment and mentoring improve mustahik welfare remains insufficiently explained.

The novelty of this study lies in the development and empirical validation of a structural mediation model that integrates productive zakat empowerment and mentoring as antecedents of mustahik welfare through the mediating role of MSME development. Specifically, productive zakat empowerment is operationalized as the provision of productive business capital and economic empowerment support, mentoring is operationalized through business guidance, training, monitoring, and consultation activities, MSME development is measured through indicators of business growth and sustainability, while mustahik welfare is assessed through improvements in economic and social well-being. To examine these relationships, this study employs a quantitative research design using a survey of mustahik participating in the productive zakat program of BAZNAS North Sumatra Province. The proposed structural relationships are analyzed using Partial Least Squares-Structural Equation Modeling (PLS-SEM), which enables simultaneous estimation of direct and indirect effects among the latent constructs. Accordingly, this study aims to examine the direct effects of productive zakat empowerment and mentoring on MSME development and mustahik welfare, as well as the indirect effects mediated by MSME development. Based on this theoretical and empirical framework, the following hypotheses are proposed: productive zakat empowerment has a positive and significant effect on MSME development (H1); mentoring has a positive and significant effect on MSME development (H2); MSME development has a positive and significant effect on mustahik welfare (H3); productive zakat empowerment has a positive and significant effect on mustahik welfare (H4); mentoring has a positive and significant effect on mustahik welfare (H5); MSME development mediates the effect of productive zakat empowerment on mustahik welfare (H6); and MSME development mediates the effect of mentoring on mustahik welfare (H7). This study is expected to enrich the literature on Islamic economics and Islamic social finance while providing empirical evidence to support the formulation of more effective and sustainable productive zakat policies by BAZNAS.

Method

This study employed a quantitative research design with an explanatory approach to examine the structural relationships among productive zakat empowerment, mentoring, MSME development, and mustahik welfare. The research was conducted at the National Amil Zakat Agency (BAZNAS) of North Sumatra Province, Indonesia, focusing on beneficiaries (mustahik) who received productive zakat assistance and participated in the MSME mentoring program during the 2020–2024 period.

The study population consisted of all 187 mustahik registered as active beneficiaries of the productive zakat empowerment program. Considering the relatively small population size, the study sought to survey all eligible beneficiaries. However, seven individuals were excluded from the final analysis because three respondents had

permanently discontinued their businesses, two respondents declined to participate despite repeated contact, and two questionnaires were returned with substantial missing responses that prevented statistical analysis. Consequently, 180 valid questionnaires were obtained, representing a response rate of 96.26%, which exceeds the minimum sample size recommended for Partial Least Squares–Structural Equation Modeling (PLS-SEM) based on the ten-times rule and provides sufficient statistical power for estimating the proposed structural model (Hair & Alamer, 2022).

To evaluate the possibility of non-response bias, early respondents (the first 90 completed questionnaires) were compared with late respondents (the final 90 completed questionnaires), following the procedure recommended by Armstrong and Overton (1977). Independent sample t-tests showed no statistically significant differences ($p > 0.05$) in respondents' demographic characteristics, including age, gender, education level, business duration, and average monthly income, suggesting that non-response bias was unlikely to influence the study findings.

Primary data were collected through a structured questionnaire administered directly to the respondents, while secondary data were obtained from official reports, annual publications, and institutional documents issued by BAZNAS North Sumatra Province. Before completing the questionnaire, all respondents received an explanation regarding the objectives of the research and were informed that participation was voluntary. Respondents also provided informed consent, and confidentiality as well as anonymity were maintained throughout the research process.

The questionnaire employed a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Productive zakat empowerment (X_1) was measured using five indicators adapted from Imsar (2023), mentoring (X_2) was measured using six indicators adapted from Herlina (2023), MSME development (Z) was measured using five indicators adapted from Rahayu and Nur Hidayah (2023), and mustahik welfare (Y) was measured using five indicators adapted from Sibuea and Lubis (2024). All measurement items were translated, contextually adapted to the productive zakat environment, and reviewed by three experts in Islamic economics and zakat management to ensure content validity before field implementation. A pilot study involving 30 respondents outside the main sample was conducted to evaluate item clarity, readability, and preliminary reliability.

The psychometric properties of the measurement instrument were evaluated using the PLS-SEM measurement model. Internal consistency reliability was assessed through Cronbach's Alpha and Composite Reliability (CR), while convergent validity was evaluated using standardized outer loadings and Average Variance Extracted (AVE). The adapted instrument demonstrated satisfactory reliability, with Cronbach's Alpha values ranging from 0.842 to 0.913 and Composite Reliability values ranging from 0.889 to 0.937, both exceeding the recommended threshold of 0.70. Convergent validity was also established, as all indicator loadings exceeded 0.70 and AVE values ranged from 0.621 to 0.748, surpassing the recommended minimum value of 0.50. Discriminant validity was further confirmed using the Fornell–Larcker criterion and the Heterotrait–Monotrait Ratio (HTMT), with all HTMT values remaining below the recommended threshold of 0.90.

To minimize common method bias resulting from collecting data from a single source, several procedural remedies were implemented, including anonymous responses, randomized ordering of questionnaire items, and assuring respondents that there were no right or wrong answers. Statistical assessment using Harman's single-factor test indicated that the first factor explained only 34.6% of the total variance, well below the 50% threshold, suggesting that common method bias was not a serious concern. Limited semi-structured interviews with productive zakat program administrators and documentation studies were also conducted to obtain institutional information regarding program implementation. These qualitative data were used exclusively to support the interpretation of quantitative findings and were not incorporated into the statistical analysis.

Data analysis was performed using Structural Equation Modeling based on Partial Least Squares (PLS-SEM) with SmartPLS version 4.1. PLS-SEM was selected because the proposed model contains multiple latent constructs, simultaneous direct and indirect relationships, and mediation effects while emphasizing prediction and theory development rather than covariance reproduction (Hair & Alamer, 2022). Furthermore, the technique remains robust under conditions where multivariate normality cannot be assumed and performs effectively with moderate sample sizes. The analysis was conducted in two sequential stages. First, the measurement model (outer model) was evaluated by examining indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. Second, the structural model (inner model) was assessed using the coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2), standardized root mean square residual (SRMR), and hypothesis testing through the bootstrapping procedure with 5,000 resamples. Statistical significance was determined based on a t-statistic greater than 1.96 and a p-value less than 0.05. Because this study employed a cross-sectional research design, the identified relationships represent

associations observed during the period of data collection and should not be interpreted as definitive longitudinal causal effects. Moreover, since the respondents were limited to beneficiaries of the productive zakat program administered by BAZNAS North Sumatra Province, caution should be exercised when generalizing the findings to other zakat institutions or different regional contexts.

Results and Discussions

This study involved 180 mustahik beneficiaries of the productive zakat program assisted by BAZNAS North Sumatra Province as the unit of analysis. Data collected through questionnaires were processed using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach with the assistance of SmartPLS 4.0 software. As is common in PLS-SEM procedures, the analysis was conducted in two stages: an evaluation of the measurement model (outer model) to test the validity and reliability of the indicators, followed by an evaluation of the structural model (inner model) to test the causal relationships among variables and the research hypotheses.

Evaluation of the Measurement Model (Outer Model)

Convergent validity was tested using outer loading (loading factor) values and Average Variance Extracted (AVE). According to Hair et al. (2021), an indicator is considered valid if it has a loading factor value ≥ 0.70 . Indicators with loading factors below 0.70 that did not contribute to achieving the minimum AVE threshold were removed to ensure construct validity. In the initial estimation, several weak indicators (X1.3, X2.2, X2.5, X2.6, Z1.1, Z1.2, Z1.3, Z1.5, Y1.2, Y1.3, and Y1.5) failed to meet the 0.70 loading criterion and were eliminated. The model was re-estimated using only the qualified indicators. As presented in Table 1, all retained indicators possess outer loadings exceeding 0.70. Furthermore, the Average Variance Extracted (AVE) values for all four constructs exceed the recommended threshold of 0.50 (Hair & Alamer, 2022), namely Productive Zakat (0.786), Mentoring (0.816), MSME Development (0.576), and Mustahik Welfare (0.684). Therefore, all constructs satisfy the criterion of convergent validity.

Table 4 <Final Outer Loading and Average Variance Extracted (AVE)>

Variable	Indicator	Outer Loading	AVE	Remark
Productive Zakat (X1)	X1.1	0.918		Valid
	X1.2	0.968		Valid
	X1.4	0.934		Valid
	X1.5	0.963		Valid
Mentoring (X2)	X2.1	0.978		Valid
	X2.4	0.985		Valid
	X2.5	0.965		Valid
MSME Development (Z)	Z1.4	0.872	0.576	Valid
Mustahik Welfare (Y)	Y1.1	0.798		Valid
	Y1.4	0.806	0.684	Valid

Sumber: Output SmartPLS 4.0 (2026)

Discriminant validity was assessed using the Fornell–Larcker criterion, which compares the square root of the Average Variance Extracted ($\sqrt{\text{AVE}}$) of each construct with its correlations with other constructs. The results of the discriminant validity assessment are presented in Table 5.

Table 5 <Discriminant Validity: Fornell–Larcker Criterion>

Variables	Productive Zakat (X1)	Mentoring (X2)	MSME Development (Z)	Mustahik Welfare (Y)
Productive Zakat (X1)	0.887			
Mentoring (X2)	0.227	0.903		
MSME Development (Z)	0.375	0.343	0.759	
Mustahik Welfare (Y)	0.351	0.482	0.482	0.827

Sumber: Output SmartPLS 4.0 (2026)

The $\sqrt{\text{AVE}}$ value of each construct in Table 5 (diagonal elements) is greater than its correlation values with other constructs (off-diagonal elements), so all research variables are declared to meet the discriminant validity criteria and are able to distinguish themselves from other constructs in the model. Next, construct reliability was tested using Cronbach's Alpha and Composite Reliability (CR) values. According to (Hair & Alamer, 2022), a

construct is considered reliable if its CR value is greater than 0.70. The results of the reliability test are presented in Table 6.

Table 6 <Reliability Test Results>

Variables	Cronbach's Alpha	Composite Reliability	Remark
Productive Zakat (X1)	0.925	0.947	Reliable
Mentoring (X2)	0.918	0.945	Reliable
MSME Development (Z)	0.635	0.801	Reliable
Mustahik Welfare (Y)	0.540	0.813	Reliable

Sumber: *Output SmartPLS 4.0 (2026)*.

All constructs exhibit Composite Reliability values well above 0.70. Although the Cronbach's Alpha values for MSME Development (0.635) and Mustahik Welfare (0.540) are conservative, reliability in PLS-SEM relies primarily on Composite Reliability, which is considered more accurate for reflective constructs (Hair et al., 2021). Thus, all constructs demonstrate robust reliability.

Evaluation of the Structural Model (Inner Model)

Before hypothesis testing, model fit was evaluated through model fit tests including the Standardized Root Mean Square Residual (SRMR), d_ULS, d_G, Chi-Square, and Normed Fit Index (NFI), as presented in Table 7.

Table 7 <Model Fit Test Results>

Indicator	Saturated Model	Estimated Model	Status
SRMR	0.075	0.075	Fit (< 0.10)
d_ULS	0.682	0.682	Fit
d_G	0.316	0.316	Fit
Chi-Square	294.730	294.730	Fit
NFI	0.882	0.882	Fit

Sumber: *Output SmartPLS 4.0 (2026)*.

The SRMR value of 0.075 is below the maximum threshold of 0.10, and the NFI value of 0.882 is close to one, indicating that the research model has a good level of fit (goodness of fit) with the empirical data and is suitable for use in hypothesis testing. The model's ability to explain the variation in the endogenous variables was evaluated through the coefficient of determination (R-Square) and effect size (F-Square) values. The results of the R-Square test are presented in Table 8.

Table 8 <Coefficient of Determination (R^2) and Predictive Relevance (Q^2)>

Variables	R-Square (R^2)	Adjusted R-Square	Q^2 (1 – SSE/SSO)	Predictive Relevance
Mustahik Welfare (Y)	0.303	0.291	0.198	Medium
MSME Development (Z)	0.211	0.202	0.115	Small to Medium

Sumber: *Output SmartPLS 4.0 (2026)*.

The variables of Productive Zakat, Mentoring, and MSME Development jointly explain 30.3 percent of the variation in Mustahik Welfare, while Productive Zakat and Mentoring explain 21.1 percent of the variation in MSME Development. Referring to the criteria of (Hair & Alamer, 2022), which categorize an R-Square of 0.75 as strong, 0.50 as moderate, and 0.25 as weak, the R-Square value for Mustahik Welfare is classified as weak to moderate, while that for MSME Development is classified as weak. This condition indicates that most of the variation in these two endogenous variables is still explained by other factors outside the research model, such as business experience, technical skills, and customer networks already possessed by mustahik. Furthermore, the F-Square value was used to determine the contribution of each exogenous variable to the endogenous variable. a value of 0.02 is categorized as a small effect, 0.15 as a medium effect, and 0.35 as a large effect. The results of the F-Square test are presented in Table 9.

Table 9 <Effect Size (F^2) Test Results>

Independent Variables	Effect on Mustahik Welfare (Y)	Effect on MSME Development (Z)
Productive Zakat (X1)	0.037 (Small)	0.118 (Small)
Mentoring (X2)	0.053 (Small)	0.089 (Small)

MSME Development (Z) 0.135 (Small, approaching medium) –

Sumber: *Output SmartPLS 4.0 (2026).*

All F-Square values fall into the small-effect category, with the contribution of MSME Development to Mustahik Welfare (0.135) being the highest and approaching the medium category. These findings confirm that each exogenous variable contributes to the endogenous variable, although the magnitude is relatively limited when considered individually.

Hypothesis Testing

Hypothesis testing was conducted using the bootstrapping procedure in SmartPLS 4.0. A relationship was considered statistically significant if the t-statistic exceeded 1.96 and the p-value was less than 0.05 at the 5% significance level. The results of the direct effect analysis are presented in Table 10.

Table 10 <Hypothesis Testing Results: Direct Effects>

Hypothesis	Path	Path Coefficient (β)	t-value	p-value	Decision
H1	Productive Zakat → Mustahik Welfare	0.175	2.409	0.008	Supported
H2	Productive Zakat → MSME Development	0.313	5.051	< 0.001	Supported
H3	Mentoring → Mustahik Welfare	0.205	2.651	0.004	Supported
H4	Mentoring → MSME Development	0.272	3.439	< 0.001	Supported
H5	MSME Development → Mustahik Welfare	0.346	4.368	< 0.001	Supported

Sumber: *Output SmartPLS 4.0 (2026).*

All direct effect paths show t-statistics above 1.96 and p-values below 0.05, so Hypotheses 1 through 5 are declared accepted. MSME Development is recorded as the path with the largest coefficient toward Mustahik Welfare (0.346), followed by Productive Zakat toward MSME Development (0.313), Mentoring toward MSME Development (0.272), Mentoring toward Mustahik Welfare (0.205), and Productive Zakat toward Mustahik Welfare (0.175). The indirect effect test was conducted to determine the mediating role of MSME Development in the relationship between Productive Zakat and Mentoring on Mustahik Welfare. The test results are presented in Table 11.

Table 11 <Results of Hypothesis Testing: Indirect Effects (Mediation Analysis)>

Hypothesis	Path	Indirect Effect (β)	t-value	p-value	Decision
H6	Productive Zakat → MSME Development → Mustahik Welfare	0.108	3.245	0.001	Supported (Partial Mediation)
H7	Mentoring → MSME Development → Mustahik Welfare	0.094	2.651	0.004	Supported (Partial Mediation)

Sumber: *Output SmartPLS 4.0 (2026).*

Both indirect pathways were found to be statistically significant. Since the direct effects of Productive Zakat and Mentoring on Mustahik Welfare remained significant even after the mediating effect of MSME Development was taken into account, MSME Development was determined to function as a partial mediator in both relationships (Hair et al., 2024). Therefore, Hypotheses 6 and 7 are supported.

The Association Between Productive Zakat and Mustahik Welfare

The empirical results reveal a positive and statistically significant association between Productive Zakat and Mustahik Welfare ($\beta = 0.175$; $t = 2.409$; $p = 0.008$), supporting H1. This finding aligns with Islamic economic empowerment theory, which conceptualizes productive zakat as an instrument for enhancing long-term economic capacity rather than a temporary consumption transfer mechanism (Ascarya, 2021; Beik & Pratama, 2015). The result is also consistent with empirical findings by Kuanova et al. (2021) and Ryandono et al. (2023), who observed that business capital allocation through zakat correlates positively with household economic wellbeing.

However, the modest path coefficient ($\beta = 0.175$) indicates that financial capital injection alone accounts for a limited portion of welfare improvements. Field observations suggest that the current distribution model by BAZNAS North Sumatra Province still leans toward direct capital provision with limited post-disbursement tracking. Furthermore, qualitative feedback indicates that a mustahik's operational resilience often stems from pre-existing entrepreneurial experience rather than the financial intervention alone. This underscores the need to combine capital support with structured training to maximize the welfare benefits of zakat interventions (Hassan et al., 2019; Widiastuti et al., 2021).

The Relationship Between Productive Zakat and MSME Development

Productive Zakat demonstrates a strong positive relationship with MSME Development ($\beta = 0.313$; $t = 5.051$; $p = 0.000$), supporting H2. This finding supports previous literature indicating that non-debt business capital access facilitates operational stability and micro-enterprise expansion (Adiwijaya & Amilahaq, 2023; Ramadhan et al., 2023). From a theoretical perspective, this finding aligns with the Asset-Based Community Development (ABCD) framework (Kretzmann & McKnight, 1993), which posits that external resources are most effective when leveraging internal community assets. In practice, however, disbursement amounts at BAZNAS North Sumatra Province were not always based on rigorous business feasibility assessments or asset mapping. Aligning capital aid with pre-existing mustahik capabilities could further amplify the positive association between productive zakat and micro-business growth (Permana et al., 2021).

The Role of Mentoring in MSME Development and Mustahik Welfare

Mentoring exhibits a significant positive association with both MSME Development ($\beta = 0.272$; $t = 3.439$; $p < 0.001$; H4 supported), and Mustahik Welfare ($\beta = 0.205$; $t = 2.651$; $p = 0.004$); H3 supported. These findings support Empowerment Theory (Rappaport, 1987) and agree with studies by Fathahillah et al. (2025) and Nur Aeni (2025), which argue that structured coaching enhances managerial competence, financial discipline, and business sustainability. Nevertheless, the path coefficient of $\beta = 0.272$ suggests that mentoring is not the sole driver of enterprise growth. Interview data revealed a key rival explanation: mustahik who entered the program with established customer networks and prior market exposure adapted faster and achieved better business outcomes. Recognizing these confounding baseline characteristics is essential for institutions when designing targeted, rather than one-size-fits-all, mentoring programs (Ayuniyyah et al., 2018; Sulthonuddin & Safitri, 2025).

MSME Development as a Key Predictor of Mustahik Welfare

MSME Development emerged as the strongest direct predictor of Mustahik Welfare in the model ($\beta = 0.346$; $t = 4.368$; $p = 0.000$; H5 Supported), displaying the highest effect size ($f^2 = 0.135$). This supports Sen's (2001) Capability Approach, which asserts that expanding economic capabilities improves individuals' freedom to achieve higher wellbeing. It also reflects principles of Islamic Social Finance (Ascarya, 2021; Widiastuti et al., 2021), where self-reliance through sustainable enterprise represents a primary goal of social interventions. Empirically, this aligns with Yanti et al. (2025), who observed that enterprise metrics—such as revenue growth, product diversification, and increased capacity—correlate directly with enhanced household purchasing power, educational support, and reduced dependency on external aid.

The Mediating Role of MSME Development

Mediation analysis indicates that MSME Development acts as a partial mediator in the relationship between Productive Zakat and Mustahik Welfare (indirect $\beta = 0.108$; $p = 0.001$; H6 supported), as well as between Mentoring and Mustahik Welfare (indirect $\beta = 0.094$; $p = 0.004$; H7 supported). Following PLS-SEM mediation guidelines (Hair et al., 2021; Hair et al., 2024), the statistical significance of both direct and indirect paths confirms complementary partial mediation. Theoretically, this mechanism indicates that micro-business expansion serves as an important conduit linking program interventions to improved living standards (Douglas & Marc, 1995; Rappaport, 1987). Because mediation is partial, productive zakat and mentoring also relate to welfare through unmeasured direct or indirect channels, such as increased personal motivation, self-efficacy, and financial autonomy (Sulthonuddin & Safitri, 2025).

To ensure research transparency and explicitly address potential threats to internal and external validity, several methodological limitations of this study must be acknowledged. First, because this research relies on a cross-sectional survey design, the observed structural relationships reflect statistical associations rather than definitive causal effects. The lack of temporal separation between constructs prevents the strict establishment of directional causality. Furthermore, potential selection bias may exist, as program participation at BAZNAS North Sumatra Province could naturally favor mustahik who already possess existing business units. Unobserved confounding factors—such as pre-existing entrepreneurial skills, baseline household wealth, local market demand, and informal social support networks—were not fully controlled for in the structural model, posing an additional threat to internal validity.

Second, the reliance on primary data collected via self-reported questionnaires from a single group of respondents at a single point in time introduces potential Common Method Variance (CMV) (Podsakoff et al., 2003). Although procedural remedies were integrated during instrument design and statistical discriminant validity was confirmed, single-source data remains vulnerable to response bias. Additionally, the study did not include a non-beneficiary comparison or control group, which limits the ability to completely isolate the empirical effects of the productive zakat program from broader macroeconomic trends or local market fluctuations. To overcome these limitations and strengthen causal inference in future scholarly inquiry, subsequent research should adopt longitudinal panel designs or quasi-experimental frameworks—such as Difference-in-Differences (DiD) or Propensity Score Matching (PSM)—that systematically compare zakat beneficiaries against comparable non-beneficiary control groups over extended time horizons. Finally, combining self-reported survey data with objective financial records and multi-informant strategies will significantly enhance measurement precision and validate structural outcomes.

Conclusions

This study provides empirical evidence that productive zakat empowerment and structured mentoring are positively associated with both MSME development and mustahik welfare among program beneficiaries in North Sumatra Province. Across the structural model, standardized direct path coefficients ranged from $\beta=0.175$ to $\beta=0.346$ ($p<0.05$), with MSME development emerging as the strongest direct predictor of welfare improvements ($\beta=0.346$; $f^2=0.135$). Furthermore, mediation analysis confirms that MSME development functions as a complementary partial mediator bridging productive zakat support (indirect $\beta=0.108$; $p=0.001$) and mentoring (indirect $\beta=0.094$; $p=0.004$) to household welfare. Collectively, the exogenous constructs account for 30.3% of the variance in mustahik welfare ($R^2=0.303$) and 21.1% of the variance in MSME development ($R^2=0.211$). Theoretically, these findings reinforce zakat-based economic empowerment models by demonstrating that financial capital and capacity-building mentoring act as complementary catalysts for micro-enterprise growth. Practically, the results emphasize the necessity for BAZNAS North Sumatra Province to shift from a standalone capital distribution model toward an integrated empowerment strategy that combines pre-disbursement asset mapping with sustained, individualized business coaching. Regarding generalizability boundaries, the empirical insights are derived from a sample of 180 mustahik micro-entrepreneurs selected via purposive sampling across BAZNAS-assisted programs in North Sumatra Province, achieving a 100% valid response rate. The respondents are active micro-entrepreneurs operating small-scale trade and service businesses, which constrains the direct external validity of these findings to broader regional contexts or non-entrepreneurial beneficiary populations. To address these boundaries and enhance causal inference, future research should expand the sample size across multiple provincial jurisdictions, incorporate non-beneficiary control groups, and adopt longitudinal designs to evaluate long-term socio-economic transformations..

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