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Digital Zakat Adoption among MSMEs in Pekalongan: A Technological Interaction Approach for Strengthening Zakat-Based Poverty Alleviation

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ABSTRACT
The digital transformation of zakat management holds significant potential for advancing poverty alleviation through more efficient and inclusive zakat collection systems. This study uses the Interaction Perspective framework of technology adoption to examine the behaviour of micro, small, and medium-sized enterprise (MSME) actors in Pekalongan City in adopting digital zakat platforms. Drawing on qualitative field research and explanatory-causal analysis, the study identifies key factors—individual readiness, perceived technological value, task alignment, and environmental support—that influence digital zakat behaviour. Findings reveal that digital platforms enhance the convenience and timeliness of zakat payments, making them particularly appealing to MSMEs with limited time and administrative capacity. Moreover, the increased zakat collection through digital channels has strengthened institutional zakat distribution mechanisms, contributing more effectively to local poverty reduction initiatives. The study underscores the importance of integrating technological literacy and institutional outreach to optimize the socio-economic impact of zakat in the digital era.

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Keywords
Digital Zakat; Interaction Perspective; MSMEs; Pekalongan; Poverty Alleviation; Technology Adoption.

ABSTRAK
Transformasi digital dalam manajemen zakat memiliki potensi signifikan untuk memajukan pengentasan kemiskinan melalui sistem pengumpulan zakat yang lebih efisien dan inklusif. Studi ini menggunakan kerangka Perspektif Interaksi adopsi teknologi untuk meneliti perilaku pelaku usaha mikro, kecil, dan menengah (UMKM) di Kota Pekalongan dalam mengadopsi platform zakat digital. Berdasarkan penelitian lapangan kualitatif dan analisis penjelasan-kausal, studi ini mengidentifikasi faktor-faktor kunci—kesiapan individu, nilai teknologi yang dipersepsikan, keselarasan tugas, dan dukungan lingkungan—yang mempengaruhi perilaku zakat digital. Temuan menunjukkan bahwa platform digital meningkatkan kenyamanan dan ketepatan waktu pembayaran zakat, menjadikannya sangat menarik bagi UMKM dengan waktu dan kapasitas administratif yang terbatas. Selain itu, peningkatan pengumpulan zakat melalui saluran digital telah memperkuat mekanisme distribusi zakat institusional, berkontribusi lebih efektif terhadap inisiatif pengurangan kemiskinan lokal. Studi ini menekankan pentingnya mengintegrasikan literasi teknologi dan jangkauan kelembagaan untuk mengoptimalkan dampak sosial-ekonomi zakat di era digital.

Kata Kunci
Zakat Digital; Perspektif Interaksi; UMKM; Pekalongan; Pengentasan Kemiskinan; Adopsi Teknologi.

Introduction

The transformation and strengthening of Indonesia's digital ecosystem is a national priority that affects various sectors, including socio-religious practices. Digital acceleration from urban to rural areas plays a key role in enhancing productivity and competitiveness, especially for micro, small, and medium-sized enterprises (MSMEs), which constitute 64.2 million businesses, contribute 61% to national GDP, and absorb 97% of the workforce (World Economic Forum, 2022). As MSMEs increasingly rely on digital technology, there is a need to shift perspectives toward adopting digital tools—not only for economic activity but also for religious obligations, such as zakat payments.

Zakat, a core pillar of Islam, serves not only as a religious obligation but also as a socioeconomic instrument to address inequality and poverty. Zakat is formally regulated in Indonesia through Law No. 38 of 1999 and Law No. 23 of 2011, empowering BAZNAS and LAZ to manage collection and distribution (DPR RI, 2011). Beyond its legal foundation, zakat offers a potential bottom-up mechanism to strengthen grassroots economies, especially in times of crisis like the COVID-19 pandemic (Hassan et al., 2024).

There are two primary forms of zakat: zakat fitrah and zakat maal. The latter includes income, business, and trade zakat—making MSME actors key contributors (Herianingrum et al., 2024). However, zakat literacy and formal compliance among MSMEs remain limited despite the obligation. Many still prefer informal giving due to trust issues or lack of procedural knowledge (Abdullah & Sapiei, 2018; Ayuniyyah et al., 2022). Meanwhile, the potential of zakat in Indonesia is massive, but its digital transformation—particularly in regions like Pekalongan—is underutilized.

Pekalongan City, renowned as a Creative City and a City of Santri, hosts over 19,000 MSMEs (BPS, 2023). Despite high religiosity and strong MSME presence, adoption of digital zakat remains low. This is concerning, given that digital zakat platforms have demonstrated national success. In 2019, the online zakat collection reached IDR 41 billion, up from IDR 18 billion in 2018 (BAZNAS RI, 2021), but this trend is not reflected locally. BAZNAS Pekalongan still relies primarily on zakat maal from civil servants, with little participation from MSMEs.

This study seeks to address this gap by analyzing the behaviour and intention of MSME actors in Pekalongan to adopt digital zakat innovations. Drawing on the Interaction Perspective (Daellenbach & McNickle, 2005), this research examines how four systemic elements—individual, technology, task, and environment—influence the adoption process. Complementary theories such as the Diffusion of Innovation (DOI) (Rogers, 1985), Technology Acceptance Model (TAM) (Davis, 1985), Value-Based Adoption Model (VAM) (Kim et al., 2007), and the Islamic principle of Tazkiyah al-Mal (al-Bahi, 1997) are employed to frame the discussion.

Adopting digital zakat platforms among micro, small, and medium enterprises (MSMEs) must be understood through a multidimensional lens that integrates behavioural, technological, economic, and religious perspectives. To this end, this study applies a synthesis of several interrelated frameworks—namely the Technology Acceptance Model (TAM), the Diffusion of Innovation (DOI), the Value-based Adoption Model (VAM), and the Interaction Perspective on System Use—while anchoring the analysis within the Islamic economic principle of Tazkiyah al-Mal. These models collectively offer a robust explanatory basis for analyzing how MSME actors in Pekalongan adopt digital zakat mechanisms and how such adoption contributes to poverty alleviation.

Davis proposed the TAM as a foundational model for explaining technology adoption behaviour. The two core constructs—perceived usefulness and ease of use—are

particularly salient in this study. MSME actors are more likely to adopt digital zakat platforms when they perceive such systems as efficient in fulfilling their religious obligations and easy to integrate into their existing business routines. Furthermore, in the religious context of zakat, perceived usefulness is also influenced by trust in the legitimacy and compliance of the platform with Islamic principles, suggesting that technological acceptance is intertwined with spiritual motivation.

Rogers' Diffusion of Innovation theory highlights five characteristics that affect the adoption of innovations: relative advantage, compatibility, complexity, trialability, and observability. In the context of this study, digital zakat platforms offer a clear relative advantage over conventional manual systems in terms of speed and traceability. Compatibility refers to aligning digital zakat platforms with MSMEs' operational and religious values. At the same time, trialability and observability reflect the ease with which MSMEs can experiment with and witness the benefits of digital zakat solutions.

The VAM developed by Kim et al. offers a nuanced understanding of technology adoption by focusing on users' evaluation of the trade-off between perceived benefits and sacrifices. For MSMEs, functional value (efficiency, speed, accountability) must outweigh monetary cost (data cost, transaction fees) and emotional cost (security concerns, mistrust). This model is particularly apt in examining how economic rationality intersects with religious motivations in using digital zakat platforms.

From the Islamic economic viewpoint, zakat serves as a form of spiritual purification and a socio-economic instrument aimed at wealth redistribution and poverty eradication. Tazkiyah al-Mal embodies that wealth must be cleansed through obligatory giving to ensure social justice and individual piety. Scholars such as Yusuf al-Qaradawi and M. Umer Chapra have emphasized that modern zakat management must adapt to contemporary tools, including digital technology, to fulfil its maqasid (objectives). Therefore, integrating religious obligation with technological accessibility enables a more inclusive and impactful zakat system.

Adoption is likely to increase when digital platforms are perceived as beneficial, compatible, trustworthy, and easy to use. This aligns with empirical evidence suggesting that convenience, speed, and transparency motivate muzakki—especially MSMEs—to fulfil their zakat obligations via digital means (Bin-Nashwan et al., 2023). By enhancing digital zakat fundraising and targeting MSMEs as strategic actors, zakat institutions in Pekalongan could significantly expand their collection base. This would enable more effective redistribution through productive zakat—supporting entrepreneurial development and, ultimately, contributing to poverty alleviation (Ben Jedidia & Guerbouj, 2021).

Thus, this study is guided by two primary inquiries: how zakat awareness influences conventional zakat collection among MSMEs and how individual-technology-task-environment interactions shape digital zakat adoption. In addressing these issues, the study aims to offer actionable insights to strengthen zakat-based socioeconomic empowerment at the local level, aligning with both national zakat goals and the broader agenda of inclusive digital transformation (Chaniago et al., 2024).

From the Interaction Theory perspective, adopting digital zakat innovations is viewed as the outcome of dynamic relationships between various elements within a system. Daellenbach and McNickle (2005) conceptualized that a system is defined by integrating components and their unique interconnections. The interplay among these elements—individuals, technology, tasks, and the environment—can generate new

behavioural patterns. It is essential to analyze how these interactions shape the adoption behaviour of digital zakat innovations.

The interaction perspective, as developed by Daellenbach and McNickle **(2005)**, emphasizes that the use of technology results from a dynamic and recursive interplay between four major elements: the individual, the task, the technology, and the environment. In the context of digital zakat among MSMEs, the individual refers to the zakat payer's personal motivation, religiosity, and digital literacy; the task is the act of calculating, managing, and submitting zakat payments; the technology refers to the user interface, reliability, and accessibility of the zakat platform; and the environment encompasses socio-cultural, institutional, and policy-related factors. This model is particularly relevant to MSMEs, who often operate within constrained time and resource frameworks, making their interaction with digital zakat systems highly context-dependent.

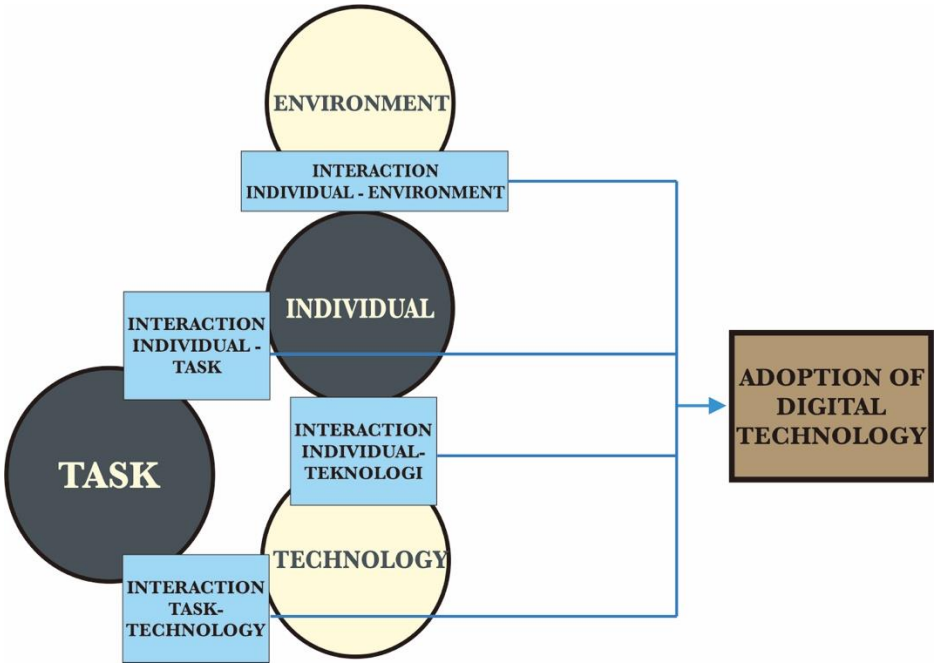

Figure 1 Interaction Perspective of Digital Zakat Adoption among MSMEs

The research model in this study is designed to examine how zakat awareness and interaction-based variables affect the intention of MSME actors in Pekalongan City to adopt digital zakat payment systems. The model suggests that a well-structured, Sharia-compliant and user-friendly digital zakat platform will enhance acceptance rates and strengthen zakat distribution practices, particularly through implementing productive zakat aimed at poverty reduction (Shaikh, 2016). Zakat awareness directly influences the volume of zakat collected. Increased awareness leads to more substantial commitment and higher participation from muzak (zakat payers), forming the foundation for sustainable zakat management that supports community-based socio-economic development (Choiriyah et al., 2020). From a technological perspective, the adoption of digital zakat is hypothesized to be shaped by three core interaction patterns.

First, the Individual–Technology Interaction: Individuals are more likely to adopt and consistently use them when digital zakat innovations align with user expectations—such as ease of use, reliability, and relevance. Second, the Individual–Task Interaction: The likelihood of adoption increases when technology simplifies or enhances an individual's ability to fulfil zakat obligations. The functional fit between the task and the

technological solution is critical. Third, the Individual–Environment Interaction: Social influence, perceived value, and trust within the community significantly shape individual decision-making. Positive environmental cues can amplify digital adoption behaviour.

The COVID-19 pandemic further accelerated the relevance of digital platforms, emphasising their efficiency, convenience, and ability to maintain public health standards while fulfilling religious duties. Digital zakat innovations, therefore, offer economic benefits and operational and spiritual advantages. For MSME actors with limited time and high mobility, these platforms provide a practical solution for fulfilling their religious obligations efficiently.

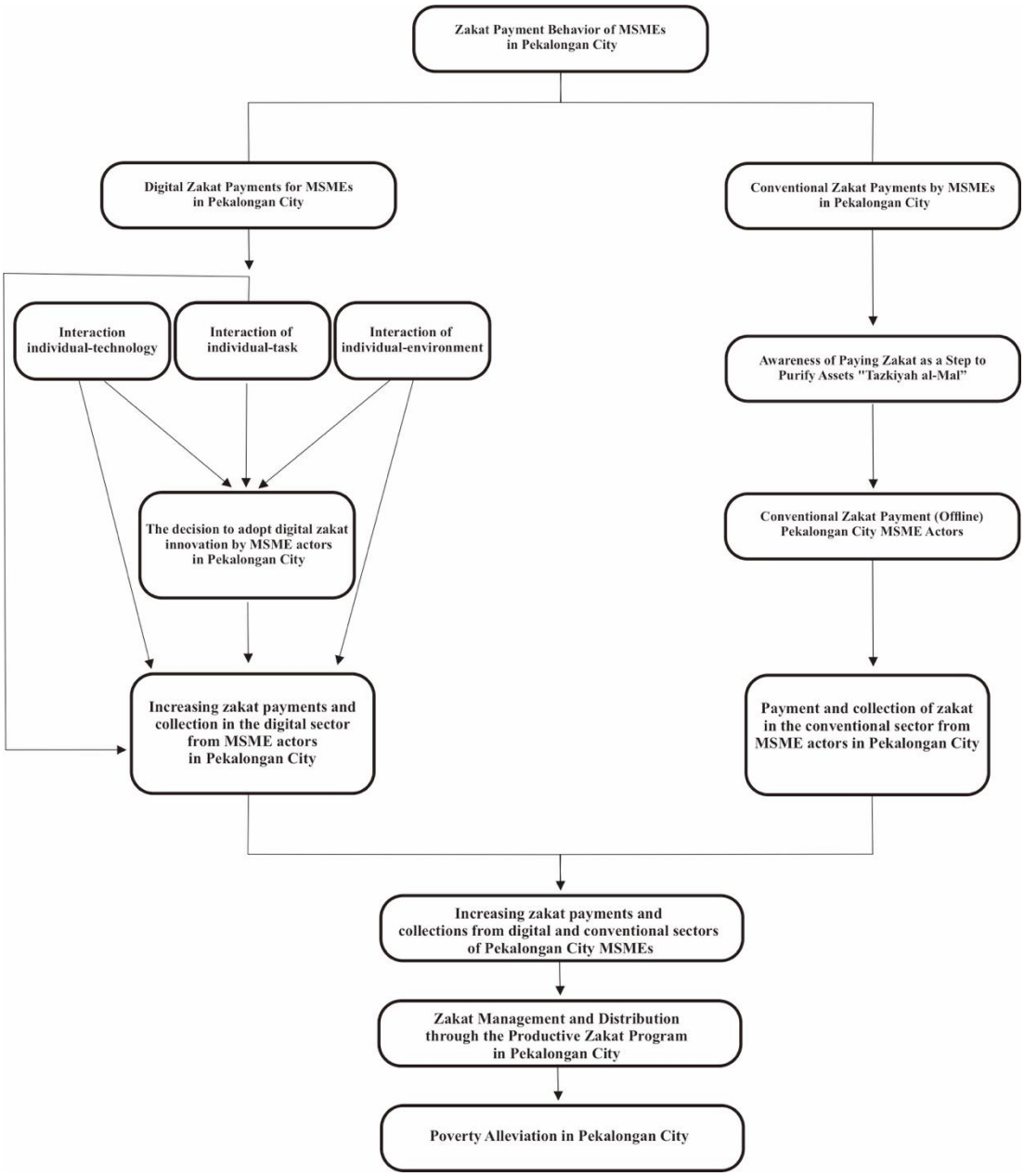

Figure 2 Hypothesis Development

While existing studies have addressed general user behaviour in digital zakat adoption, very few have focused specifically on MSMEs—a sector significantly contributing to Indonesia's zakat potential. Moreover, past research often isolates

technological, religious, or economic variables without integrating them into a unified analytical framework. This study addresses this gap by combining multiple adoption theories within a localized, faith-based context, thereby offering a holistic understanding of the mechanisms through which digital zakat adoption by MSMEs can strengthen poverty alleviation efforts.

Thus, this study posits that digital zakat adoption among MSME actors in Pekalongan will increase when the system facilitates ease of use, enhances task performance, and is supported by social trust. This increased adoption is expected to lead to higher zakat collection, particularly from the digital sector, which can be utilized to finance productive zakat schemes and alleviate poverty in the region.

Methods

This study adopts a quantitative explanatory approach using field research to explore the causal relationships influencing the behavioural intention of MSME actors in Pekalongan City to adopt digital zakat payment platforms. The research is grounded in an integrated theoretical model, combining the Technology Acceptance Model (TAM), trust and technology-related constructs, and the concept of self-actualization. This integrated approach comprehensively assesses both instrumental and psychological drivers of digital zakat adoption behaviour.

The population in this study comprises active MSME actors in Pekalongan City. A total of 420 respondents were selected through purposive sampling, targeting individuals with basic experience with mobile technology and operating within diverse sectors of MSMEs. This sample size is sufficient for multivariate statistical analysis using Structural Equation Modeling–Partial Least Squares (SEM-PLS), enabling the testing of multiple latent constructs simultaneously.

Informants in this study were selected using purposive sampling to capture diverse yet relevant perspectives on using digital zakat systems. Selection criteria included: (1) individuals actively running MSMEs in Pekalongan City; (2) awareness of zakat obligations; (3) engagement with or exposure to digital zakat platforms (such as website or mobile-based applications); and (4) willingness to participate in an in-depth interview. To enhance data richness and triangulation, additional informants were drawn from zakat institution officials, including representatives of BAZNAS Pekalongan and local amil zakat units. These institutional actors offered insights into the operational, regulatory, and socio-religious contexts influencing digital zakat practices. The study engaged eight informants representing both zakat payers (MSMEs) and administrators. Their responses provided multidimensional data relevant to understanding adoption behaviour, religious motivations, economic constraints, and digital literacy in the Zakat ecosystem.

Data for this study were collected using two primary qualitative techniques: in-depth interviews and documentation. The in-depth interviews were conducted with selected MSME actors in Pekalongan City who had experience using digital zakat platforms and with officials from local zakat institutions. Informants were selected through purposive sampling based on criteria including ownership of a registered MSME, awareness of zakat obligations, and familiarity with or actual use of digital zakat services. The interviews explored participants' perceptions, motivations, technological readiness, and religious reasoning in adopting digital platforms for zakat payment. In addition to interviews, document analysis was performed on several supporting sources, including regional zakat reports, MSME development data, digital zakat platform interfaces, and

local government regulations relevant to zakat collection and digital innovation in the financial sector.

Table 1. Operational Definitions of Research Variables

Variable	Definition	Indicators	Scale
Perceived Usefulness (PU)	The degree to which a person believes that using digital zakat technology enhances performance in fulfilling zakat obligations.	1. Technology makes zakat payment easier 2. Helps calculate zakat accurately 3. More reliable than conventional methods	Likert Scale (1–5)
Perceived Ease of Use (PEOU)	The extent to which a person believes that using digital zakat technology is free of effort.	1. Easy to use 2. Easy to understand 3. Can use without assistance	Likert Scale (1–5)
Trust	The confidence in the safety and integrity of the digital zakat platform.	1. Data security 2. Trust in fund distribution 3. System reliability	Likert Scale (1–5)
Mobile Self-Efficacy	Individual confidence in their ability to use digital and mobile technologies effectively.	1. Comfortable with using digital tools 2. Confident navigating apps 3. Able to troubleshoot basic tech issues	Likert Scale (1–5)
Technology Anxiety	Feelings of discomfort or fear associated with using digital technology.	1. Fear of errors 2. Concerns about transaction safety 3. Lack of familiarity with digital platforms	Likert Scale (1–5)
Self-Actualization	The desire for personal growth through the use of innovative tools like digital zakat platforms.	1. Enjoy trying new technology 2. Feel more fulfilled using digital zakat 3. Motivated to support tech-based charity	Likert Scale (1–5)
Behavioral Intention	The likelihood that an individual will adopt and continue using digital zakat services.	1. Plans to use in the future 2. Recommends to others 3. Intends to continue using digital zakat	Likert Scale (1–5)

This triangulation of data sources strengthens the validity and contextual richness of the findings. To analyze the data, this study applied the interactive model of qualitative analysis as introduced by Miles, Huberman, and Saldaña (2014), which includes three interrelated stages: data condensation, data display, and conclusion drawing/verification. Data condensation refers to selecting, focusing, simplifying, and transforming raw empirical data into meaningful information units. This was achieved by coding the interview transcripts and categorizing emerging themes such as perceived usefulness, religious motivation, platform accessibility, and socio-economic impact. Data display

involved organizing condensed data into visual matrices and thematic clusters, allowing for comparative analysis across different informants and theoretical constructs. These displays provided a foundation for identifying patterns, relationships, and deviations linking digital zakat adoption with behaviour, technology, and poverty reduction.

Conclusion drawing and verification entailed the interpretation of findings through iterative reflection and theory-driven analysis. The results were constantly verified against the conceptual framework—namely TAM, DOI, VAM, the interaction model, and the principle of Tazkiyah al-Mal—to ensure theoretical coherence and empirical credibility. The conclusions reflect a synthesis between participants' lived experiences and zakat's larger institutional and religious context in Indonesia. This methodological approach is efficient for uncovering nuanced insights into how digital zakat platforms are perceived, adopted, and embedded within the socio-religious life of MSME actors and how such processes contribute to broader efforts in poverty alleviation.

Data was collected using a structured questionnaire consisting of two main parts. The first part captures respondent demographics such as age, gender, education level, income, and previous zakat experience. The second part includes multiple indicators measuring ten latent variables: perceived usefulness, ease of use, trust, mobile self-efficacy, technology anxiety, self-actualization, behavioural intention, and perceived barriers to digital zakat adoption. All items were measured using a 5-point Likert scale (Joshi et al., 2015), ranging from; strongly disagree to strongly agree, and adapted from established models with contextual adjustments to the digital zakat domain.

The analysis was conducted using SmartPLS 4.0. In the measurement model (outer model), convergent validity was confirmed through Average Variance Extracted (AVE) values exceeding 0.50, while composite reliability values above 0.70 confirmed internal consistency. Discriminant validity was assessed using the Fornell-Larcker criterion. The structural model (inner model) was evaluated by analyzing path coefficients, t-statistics, and p-values, with a significance threshold set at $p < 0.05$. The model's explanatory power was examined through R^2 values, effect sizes (f^2), and predictive relevance (Q^2), all indicating good model fit.

Hypothesis testing revealed that all ten proposed relationships were statistically supported. The strongest predictors of behavioural intention to adopt digital zakat platforms were perceived usefulness ($\beta = 0.65$, $p < 0.001$), followed by perceived ease of use ($\beta = 0.45$, $p < 0.001$) and trust in the platform ($\beta = 0.32$, $p = 0.002$). Mobile self-efficacy significantly enhanced trust and perceived ease of use, while technology anxiety significantly negatively affected perceived ease of use ($\beta = -0.21$, $p = 0.028$). Self-actualization also had a notable positive influence on behavioural intention ($\beta = 0.44$, $p < 0.001$), highlighting the role of psychological motivation in driving innovation adoption.

Overall, the methodological design and empirical results underscore the importance of system quality, user trust, and individual values in promoting digital zakat adoption among MSMEs. This approach offers valuable insights for policymakers and zakat institutions in developing effective strategies for digital engagement and broader zakat collection.

Result and Discussion

1. Respondent Profile, Awareness, and Implementation of Zakat Payments MSMEs Actors in Pekalongan City

The demographic profile of the 420 MSME actors surveyed in Pekalongan City reflects a diverse representation of small business operators who are potential contributors to Zakat fundraising initiatives. As shown in the pie charts, the gender distribution indicates that 61.7% of respondents were female, suggesting a strong

presence of women in local MSME entrepreneurship, particularly in sectors such as culinary, home industries, and batik production.

As shown in Table 2, Regarding age, most respondents were within the productive age bracket, with 31–40 years (29.0%) and 41–50 years (28.3%) as the most dominant groups. This distribution indicates that most business actors are in an active phase of economic contribution, which is relevant to their capacity to become consistent zakat contributors.

Educational attainment also plays an important role in zakat awareness and technological adoption. Over half (52.6%) of respondents had completed senior high school, while 36.7% held diploma or undergraduate degrees. This relatively moderate level of education provides a favourable foundation for digital platform engagement, especially in using apps related to financial transactions like Zakat.

Income-wise, the largest segment (41.7%) earned between IDR 3 million and IDR 5 million per month. While this reflects modest economic standing, it also represents a potentially eligible group as both muzak (zakat givers) and recipients of productive Zakat, depending on asset thresholds and business scale.

Regarding zakat experience, all respondents (100%) reported fulfilling their zakat obligations at least once. However, only 40% reported doing so through formal institutions such as BAZNAS, LAZ, or digital zakat platforms. The majority, approximately 60%, preferred informal channels such as direct giving to individuals, neighbours, or local religious leaders. This finding reflects a high level of zakat awareness among MSME actors in Pekalongan but also highlights a persistent trust and access gap toward formal zakat institutions.

Table 2. Respondent Demographic Profile

Characteristic	Category	Frequency (n)	Percentage (%)
Gender	Male	161	38.3
	Female	259	61.7
Age	< 20 years	12	2.9
	20-30 years	84	20.0
	31-40 years	122	29.0
	41-50 years	119	28.3
	> 50 years	83	19.8
Education Level	Primary School (SD/SMP)	45	10.7
	Senior High School (SMA)	221	52.6
	Diploma/Bachelor Degree	154	36.7
Monthly Income	< IDR 3,000,000	137	32.6
	IDR 3,000,000-5,000,000	175	41.7
	IDR 5,000,000-10,000,000	76	18.1
	> IDR 10,000,000	32	7.6
Zakat Channel	Institutional/Formal	168	40.0
	Informal/Direct Giving	252	60.0

This behaviour indicates a strong culture of traditional giving and localized charity practices. While this approach may be practical in fostering social cohesion, it limits zakat collection and distribution's potential scalability and transparency. These findings justify the need for increased literacy, trust-building, and digital transformation efforts by zakat management bodies, particularly in areas with strong communal values like Pekalongan.

2. Interaction Perspective in The Adoption of Digital Payment Innovation as an Effort to Improve Zakat Collection by MSMEs Actors in Pekalongan City

To assess how systemic interaction influences the adoption of digital zakat platforms among MSMEs, this study analysed seven latent variables using Likert-scale measurements. The results in Figure 3, reveal high respondent agreement on the utility, usability, and relevance of digital zakat innovations. The variable Perceived Usefulness (PU) recorded the highest mean score (4.32), indicating that most MSME actors perceive digital zakat technology as a beneficial tool for fulfilling their zakat obligations efficiently. This aligns with TAM theory, which positions usefulness as a primary driver of technology acceptance.

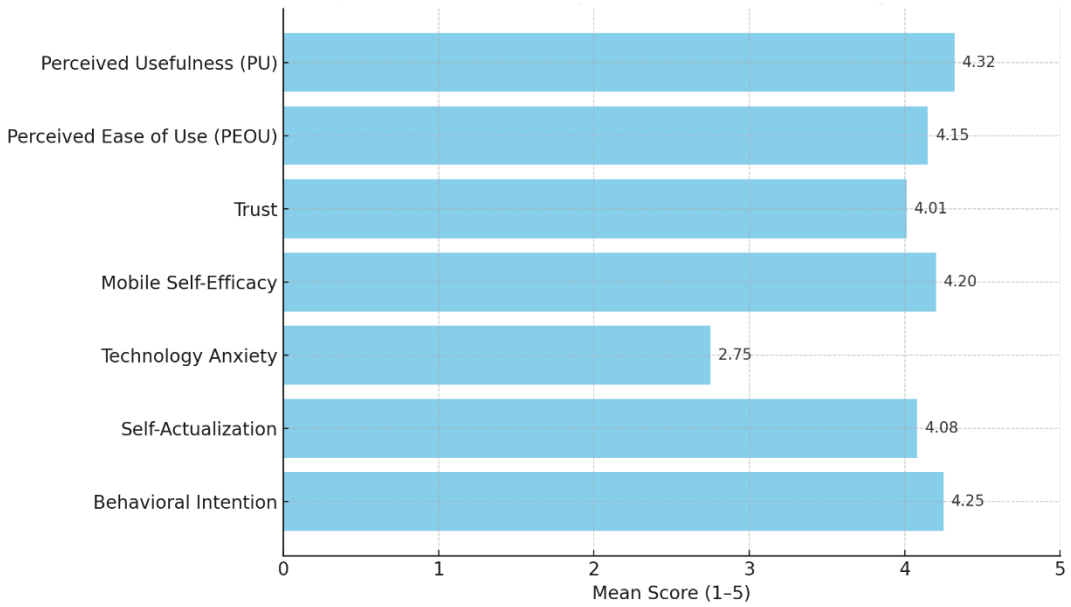

Figure 3 Mean Response Scores on Key Variables Related to Digital Zakat Adoption

Behavioural Intention (mean = 4.25) was closely followed, showing a strong inclination among respondents to adopt digital zakat shortly. This reinforces the significance of psychological readiness and internal motivation in influencing adoption behaviour.

Mobile Self-Efficacy (mean = 4.20) and Perceived Ease of Use (mean = 4.15) also received high scores. These results affirm the Interaction Perspective's emphasis on individual–technology and individual–task dynamics, suggesting that adoption likelihood increases significantly when technology is perceived as simple and within one's control.

The construct Trust (mean = 4.01) is another key component. While positive, it scored slightly lower than other motivators, hinting at residual hesitation regarding data security and transparency in zakat distribution—an issue frequently cited in previous studies and interviews with local stakeholders.

Self-Actualization (mean = 4.08) demonstrates that MSME actors view digital zakat platforms as an avenue for personal growth and social contribution. This confirms the presence of higher-order motivational drivers, particularly among younger and more educated respondents.

In contrast, Technology Anxiety scored significantly lower (mean = 2.75), yet its presence remains important. This variable, negatively correlated with ease of use, signals

that a segment of respondents—primarily older or less digitally literate—experience apprehension when using online platforms, potentially hindering full adoption.

These findings validate the structural model and confirm that perceived usefulness, self-efficacy, and ease of use are central to adoption behaviour. Trust and actualization add emotional and aspirational depth, while anxiety introduces a critical barrier that must be addressed through user-friendly design, education, and institutional support.

In practice, increasing digital zakat adoption among MSMEs in Pekalongan will require robust technology, intentional trust-building campaigns, and tailored education efforts. Digital innovation alone is insufficient; it must be accompanied by strategies that resonate with users' daily realities and spiritual aspirations.

3. Structural Model Results and Hypothesis Testing

This study employed Partial Least Squares–Structural Equation Modeling (PLS-SEM) to examine the strength of causal relationships within the theoretical framework. The model's performance was evaluated through outer and inner model testing. All indicators met the required thresholds for convergent and discriminant validity. At the same time, the inner model showed satisfactory levels of explanatory power with an R^2 value of 0.69 for Behavioral Intention, indicating that approximately 69% of the variance in intention to adopt digital zakat can be explained by the variables tested.

Table 3. Structural Model and Hypothesis Testing Results

Hypothesis			Path Coefficient (β)	T-Value	P-Value	Result
H1	:	Perceived Usefulness → Behavioral Intention	0.65	10.32	< 0.001	Supported
H2	:	Perceived Ease of Use → Behavioral Intention	0.45	8.27	< 0.001	Supported
H3	:	Perceived Ease of Use → Perceived Usefulness	0.59	9.45	< 0.001	Supported
H4	:	Trust → Behavioral Intention	0.32	5.21	0.002	Supported
H5	:	Trust → Perceived Usefulness	0.41	6.73	< 0.001	Supported
H6	:	Trust → Perceived Ease of Use	0.38	4.97	0.005	Supported
H7	:	Mobile Self-Efficacy → Perceived Ease of Use	0.50	7.89	< 0.001	Supported
H8	:	Mobile Self-Efficacy → Trust	0.48	7.65	< 0.001	Supported
H9	:	Technology Anxiety → Perceived Ease of Use	-0.21	-3.87	0.028	Supported
H10	:	Self-Actualization → Behavioral Intention	0.44	6.98	< 0.001	Supported

As summarized in Table 3, the SEM results demonstrate that all ten proposed hypotheses were statistically supported at the 95% confidence level ($p < 0.05$), with Perceived Usefulness (PU) having the most substantial direct influence on Behavioral Intention ($\beta = 0.65$, $t = 10.32$, $p < 0.001$). This confirms the core proposition of the Technology Acceptance Model (TAM): when users perceive a technology as beneficial and performance-enhancing, they are more likely to adopt it. In addition, Perceived Ease of Use (PEOU) also showed a significant and positive effect on Behavioral Intention ($\beta = 0.45$, $p < 0.001$) and on Perceived Usefulness ($\beta = 0.59$, $p < 0.001$). These dual pathways suggest that usability is not only a motivator for adoption but also enhances the perceived value of the technology itself.

Trust was found to be a meaningful predictor, influencing both Behavioral Intention (β = 0.32) and Perceived Usefulness (β = 0.41) while also improving Ease of Use (β = 0.38). These results highlight the crucial role of user confidence in data privacy, fund distribution, and system reliability.

Mobile Self-Efficacy significantly impacted both Ease of Use (β = 0.50) and Trust (β = 0.48), validating the Interaction Perspective's emphasis on the individual–technology relationship. This means that users with more substantial digital confidence are more comfortable navigating zakat platforms and more likely to trust them.

Technology Anxiety negatively influenced Perceived Ease of Use (β = –0.21, $p < 0.05$), confirming its role as a psychological barrier. Reducing this anxiety through intuitive design and user support mechanisms could enhance adoption.

Lastly, Self-Actualization (β = 0.44, $p < 0.001$) positively affected Behavioral Intention, underscoring the motivational aspect of technology adoption. Users are driven by functionality and a desire for personal growth, social contribution, and spiritual fulfilment through innovative platforms.

Overall, these results reinforce the robustness of the integrated model, where individual characteristics, technology perception, and trust mechanisms converge to shape MSME actors' digital zakat behaviour. The findings also provide strategic guidance for zakat institutions: focus on enhancing usability, reinforcing trust, and tapping into users' self-driven motivations to optimize adoption outcomes.

Table 3 presents the structural model outcomes derived from PLS-SEM analysis. The model demonstrates a strong explanatory power, with all hypothesized paths showing statistically significant relationships at the 95% confidence level. The significance of each relationship is supported by t-values above the critical threshold (1.96 for two-tailed tests) and p-values below 0.05, indicating that the constructs included in the model meaningfully influence one another.

The strongest direct predictor of behavioural intention to adopt digital zakat platforms is Perceived Usefulness (PU), with a standardized path coefficient of 0.65 ($t = 10.32$, $p < 0.001$). This supports the assertion that the more useful users perceive the platform to be in helping fulfil their zakat obligations, the more likely they are to use it. This finding is consistent with the core principle of the Technology Acceptance Model (TAM).

Perceived Ease of Use (PEOU) also significantly influences behavioural intention (β = 0.45) and further strengthens PU (β = 0.59), revealing its dual role in the adoption mechanism—both directly and indirectly through enhancing perceived benefits. These paths validate the system interaction theory, highlighting the importance of user-friendly design and intuitive interfaces in influencing technology acceptance.

Trust plays a crucial mediating role with significant effects on PU (β = 0.41), PEOU (β = 0.38), and directly on intention (β = 0.32). These results emphasize that MSME actors' confidence in the security and transparency of zakat platforms enhances their perceived ease and usefulness, ultimately motivating adoption.

The variable Mobile Self-Efficacy is also a key contributor. It positively affects both Trust (β = 0.48) and PEOU (β = 0.50), affirming that individuals with higher confidence in operating digital tools are more likely to perceive digital zakat systems as secure and manageable. Conversely, Technology Anxiety significantly negatively impacts PEOU (β =

–0.21), reinforcing the need to minimize user fears and confusion through onboarding tutorials and simplified design.

Finally, Self-Actualization positively influences behavioural intention (β = 0.44), indicating that motivations to adopt digital zakat technology are functional and aspirational. MSME actors with stronger personal development goals and social responsibility embrace digital zakat as a meaningful contribution to community welfare.

Together, these findings confirm the robustness of the structural model and underscore the multi-dimensional nature of technology adoption in religious and economic behaviour. For zakat institutions, these results suggest that improving usability, enhancing Trust, promoting tech literacy, and aligning services with user values are critical to increasing digital zakat participation.

4. Strengthening Zakat Distribution Through Productive Zakat as an Effort to Reduce Poverty Levels in Pekalongan City

The effectiveness of digital zakat innovation should be assessed through its ability to increase collection and how it strengthens the impact of zakat distribution. In the context of Pekalongan City, where the MSME sector forms a significant part of the local economy, productive zakat becomes a vital instrument to break the cycle of poverty and dependency.

Data from BAZNAS Pekalongan in 2023 shows that the total zakat collected amounted to approximately IDR 3.4 billion (BAZNAS RI, 2024). However, the distribution of this amount still reflects a consumption-oriented approach, where only 21% was channelled into productive zakat schemes. At the same time, the rest was disbursed as direct aid in the form of food, cash assistance, or temporary relief. Furthermore, 73% of the total zakat collected originated from civil servants (ASN), while contributions from the private sector, including MSMEs, accounted for merely 15%. The remaining 8% came from online or digital platforms, signalling a significant underutilization of the digital zakat channel—particularly from entrepreneurial actors with the capacity and potential to contribute more.

This research further indicates that MSME actors in Pekalongan have a firm intention to adopt digital zakat innovations, supported by high scores in perceived usefulness, behavioural intention, and self-efficacy. If this behavioural potential is translated into actual adoption, the contribution from the MSME sector could increase considerably. For example, a 10% increase in zakat participation from MSMEs could yield an additional IDR 340 million annually. If even half of that were allocated through productive zakat schemes, it could support at least 100 micro-enterprises, each receiving capital aid or tools valued at IDR 1.7 million—enough to enhance production capacity or improve business continuity.

Such redistribution provides short-term relief and empowers recipients economically, enabling them to become independent and prospective muzak in the future. This shift in the zakat distribution paradigm—from consumptive to productive—aligns with the spirit of maqashid al-shariah, which seeks to preserve wealth (hifdz al-mal) and uphold dignity (karamah al-insan).

Therefore, strengthening digital zakat adoption among MSME actors should be strategically followed by a reform in zakat distribution planning. Zakat institutions must develop systems that are data-driven, inclusive, and aimed at productive impact. This includes integrating zakat platforms with economic empowerment programs, offering

mentoring and training for recipients, and utilizing digital tools to track the outcomes of zakat interventions over time.

From a broader perspective, such efforts contribute to institutional zakat growth and national objectives related to poverty alleviation, financial inclusion, and grassroots economic resilience. In line with the Sustainable Development Goals (SDGs), particularly Goal 1 (No Poverty) and Goal 8 (Decent Work and Economic Growth), the role of zakat—when collected and distributed effectively—can serve as a localized yet powerful instrument for socio-economic transformation.

Conclusion

This study aimed to analyze the behaviour of MSME actors in Pekalongan City in adopting digital zakat payment platforms, using an integrated framework based on the Interaction Perspective, Technology Acceptance Model (TAM), and supporting constructs such as trust, mobile self-efficacy, technology anxiety, and self-actualization. The findings indicate that perceived usefulness, ease of use, trust, and self-actualization significantly influence the behavioural intention to adopt digital zakat. At the same time, mobile self-efficacy enhances both trust and ease of use. Conversely, technology anxiety was found to be a psychological barrier, negatively affecting ease of use.

The structural model tested through PLS-SEM demonstrated strong explanatory power, with all hypotheses supported and an R^2 value of 0.69 for behavioural intention. These results affirm that technological perception, psychological readiness, and value-based motivation influence the adoption of digital zakat systems among MSMEs. High levels of digital confidence and perceived utility, supported by trust in institutional systems, encourage adoption and continued use.

Moreover, this study highlights the strategic role of digital zakat fundraising in enhancing zakat collection from the entrepreneurial sector, which has been underutilized. If coupled with a shift toward productive zakat distribution, digital innovation can help unlock the socio-economic potential of zakat—not just as a religious obligation but as a financial instrument for community empowerment. Increased zakat participation from MSMEs and its redirection to productive distribution models could substantially reduce poverty levels and support sustainable economic development at the grassroots level.

In conclusion, the success of digital zakat adoption depends on the availability of user-friendly platforms and on fostering trust, digital literacy, and motivational alignment with users' aspirations. This calls for a dual-focus strategy for zakat institutions and policymakers: enhancing digital engagement among muzak while strengthening institutional capacity to distribute zakat productively and transparently. The synergy between digital innovation and socio-economic justice represents the future of zakat in Indonesia's dynamic Islamic philanthropy landscape.

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