

Marketing Innovation and Waste Reduction Strategies: Enhancing Business Sustainability in Pesantren-Based Micro-Enterprises

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ABSTRACT

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Business sustainability has become an important concern for community-based micro-enterprises, particularly within Islamic boarding schools where economic activities are expected to support institutional self-reliance and local economic development. However, many pesantren business units face challenges related to unsold products, inefficient inventory circulation, and limited marketing strategies. This study aims to examine how marketing innovation and waste reduction strategies contribute to strengthening business sustainability in pesantren-based micro-enterprises. The research employed a qualitative case study design conducted at a pesantren canteen unit in Banyuwangi, Indonesia. Data were collected through in-depth interviews, observation, and documentation involving business unit managers, canteen staff, and student consumers. The data were analyzed using an interactive analysis model consisting of data condensation, data display, and conclusion verification. The findings reveal that simple marketing innovations such as product bundling, product variation, and adaptive product display can increase consumer interest and accelerate product circulation, thereby reducing unsold inventory. Waste reduction emerges as a consequence of improved inventory management and responsiveness to consumer preferences. The study concludes that the integration of marketing innovation, operational adaptation, and value-based resource management forms a practical sustainable business model in pesantren micro-enterprises. These findings contribute to the development of sustainable micro-enterprise strategies and highlight the potential role of pesantren institutions in supporting community economic resilience.

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INTRODUCTION

Business sustainability has become a major concern in contemporary economic development, particularly in an increasingly competitive and dynamic market environment. Organizations are expected not only to generate profit but also to maintain long-term operational resilience through innovation and efficient resource management. One important strategy to achieve this objective is marketing innovation, which enables businesses to adapt to changing consumer preferences through creative promotion, product differentiation, and improved market engagement (Mansur, 2025; Sucidha et al., 2025). In addition, waste reduction has emerged as a critical component of sustainable business practices because inefficient inventory management can lead to product accumulation and financial losses. Previous studies emphasize that effective integration between marketing innovation and efficient stock management significantly improves product turnover and operational performance in small enterprises (Panigrahi, Shrivastava, & Kapur, 2024; Panigrahi, Shrivastava, & Nudurupati, 2024). Therefore, combining innovative marketing strategies with waste reduction mechanisms becomes an essential pathway to enhance the sustainability and competitiveness of micro-enterprises.

Despite its strategic importance, many micro and small enterprises still face persistent challenges related to unsold inventory and ineffective marketing practices. Limited managerial capacity, lack of promotional creativity, and weak understanding of consumer behavior often result in low product turnover and inefficient stock management (Lavhelani et al., 2025). In many small businesses, marketing activities rely primarily on traditional selling practices without adopting innovative strategies such as product bundling, promotional campaigns, or customer feedback systems (Yani et al., 2025). Consequently, products frequently remain unsold for extended periods, reducing profitability and increasing the risk of waste, particularly for perishable goods. These conditions are especially common in community-based enterprises where business management is often handled by individuals with limited formal business training. As a result, the absence of effective marketing innovation and waste reduction strategies threatens the long-term sustainability of micro-enterprises and weakens their contribution to local economic development.

Such challenges are also evident in pesantren-based micro-enterprises, particularly in the canteen unit of Pondok Pesantren Nurul Abror Al-Robbaniyin in Banyuwangi. As an Islamic educational institution, the pesantren manages several economic units aimed at supporting institutional financial independence, including a snack canteen serving students (*santri*). The canteen regularly purchases various food and beverage products with procurement expenses reaching approximately IDR 8,000,000 per week. However, field observations

reveal that several products frequently remain unsold, resulting in product accumulation and inefficient stock circulation. In some cases, two to three cartons of snack products remain unsold every two weeks due to limited product variation, inadequate promotional strategies, and mismatches between available products and students' consumption preferences. These conditions illustrate how the absence of effective marketing innovation and adaptive inventory management can lead to recurring operational inefficiencies within pesantren micro-enterprises.

Previous studies have highlighted the significant role of marketing innovation and inventory management in improving business performance and sustainability. Marketing innovation such as product diversification, creative promotion, and strategic pricing has been widely recognized as a driver of competitive advantage and consumer engagement (Akin, 2024; Zhang, 2024). Research on consumer behavior further demonstrates that businesses capable of aligning product offerings with consumer preferences tend to achieve higher sales performance and reduced inventory waste (Fatorachian et al., 2025). Meanwhile, studies on small enterprise management emphasize the importance of efficient stock control systems in preventing unsold products and maintaining operational sustainability (Nomleni et al., 2025). In the context of Islamic economic institutions, several scholars have explored the role of pesantren in promoting entrepreneurship and community economic empowerment (Husaini, 2025). Nevertheless, these studies generally focus on macro-level institutional entrepreneurship rather than micro-level operational challenges faced by pesantren business units.

Although the literature on small business innovation continues to expand, significant research gaps remain. Most previous studies examine marketing innovation and business sustainability in conventional business environments, while limited attention has been given to micro-enterprises operating within religious educational institutions. In particular, the integration of marketing innovation and waste reduction strategies in pesantren economic units has rarely been analyzed systematically. Existing research on pesantren entrepreneurship primarily emphasizes institutional empowerment and community development rather than operational business problems such as unsold inventory, inefficient product management, and promotional limitations. Considering that pesantren represent one of the most influential socio-economic institutions in Indonesia, understanding how their business units address sustainability challenges becomes highly relevant. Therefore, exploring innovative marketing and waste reduction strategies in pesantren-based micro-enterprises offers important contributions to both academic research and practical economic development.

Based on these considerations, this study aims to analyze how marketing innovation and waste reduction strategies can enhance business sustainability in pesantren-based micro-enterprises. Specifically, the research investigates the factors causing unsold products in the pesantren canteen and examines innovative strategies implemented to reduce inventory waste and improve marketing performance. This study argues that marketing innovation supported by consumer participation, adaptive inventory management, and value-based economic principles can significantly strengthen the sustainability of community-based micro-enterprises. The findings are expected to contribute theoretically to the literature on marketing innovation and sustainable micro-enterprise management while also providing practical insights for the development of pesantren economic units as resilient, innovative, and socially responsible business institutions.

METHOD

This study employed a qualitative research design with a case study approach to explore how marketing innovation and waste reduction strategies contribute to business sustainability in pesantren-based micro-enterprises. The research was conducted at the snack canteen unit of Pondok Pesantren Nurul Abror Al-Robbaniyin, Banyuwangi, an Islamic educational institution that integrates religious education with entrepreneurial activities. The site was selected strategically because the pesantren operates several economic units designed to support institutional financial independence while maintaining Islamic ethical values in business practices. The canteen represents a typical micro-enterprise within the pesantren ecosystem where operational challenges such as unsold products, limited product variation, and marketing constraints frequently occur. This context provides a relevant empirical setting to examine how innovative marketing practices and adaptive resource management strategies are implemented within a community-based religious institution.

Data were collected through a combination of direct observation, in-depth interviews, and documentation to obtain a comprehensive understanding of the operational dynamics of the pesantren canteen. Interviews were conducted with key informants, including the head of the pesantren business unit, canteen managers, student workers, and consumers (santri), allowing multiple perspectives on marketing practices and inventory management to be captured. The collected data were analyzed using the interactive model of Miles, Huberman, and Saldaña (Onwuegbuzie & Weinbaum, 2016; Saldaña, 2024), which involves data condensation, data display, and conclusion drawing with continuous verification throughout the research process. This iterative analytical process enabled the identification of patterns related to marketing innovation

and waste reduction strategies. To ensure the credibility of the findings, data validity was strengthened through triangulation by comparing information obtained from different sources, methods, and field observations.

The selection of informants in this study was conducted using purposive sampling, a technique commonly applied in qualitative research to obtain rich and relevant information from individuals who possess direct knowledge and experience related to the research topic. Informants were chosen based on their involvement in the management, operation, and consumption of products in the pesantren canteen unit. This approach enabled the researcher to capture diverse perspectives regarding marketing practices, inventory management, and strategies for reducing unsold products within the pesantren-based micro-enterprise.

Table 1. Informant Matrix

Informant Code	Position / Role	Criteria / Expertise	Data Collection Technique
Inf-01	Head of Business Unit (Biro Usaha)	Responsible for overseeing and supervising all pesantren business units, including the canteen; possesses strategic knowledge regarding operational policies and business management.	In-depth Interview, Documentation
Inf-02	Canteen Manager	Directly responsible for daily operational management of the snack canteen, including stock procurement, product arrangement, and sales monitoring.	In-depth Interview, Observation
Inf-03	Canteen Staff	Involved in daily sales activities and product handling; provides practical insights into operational challenges such as unsold inventory and product management.	In-depth Interview, Observation
Inf-04	Student Worker (PKL Participant)	Student participating in practical entrepreneurship training in the canteen; understands consumer behavior and operational routines from a learning perspective.	In-depth Interview, Observation
Inf-05	Student Consumer (Santri)	Regular consumer of canteen products; provides perspective on product preferences, purchasing behavior, and satisfaction with product variation.	In-depth Interview

RESULT

The findings reveal that marketing innovation and waste reduction strategies in the pesantren-based micro-enterprise emerge as adaptive practices developed in response to operational challenges, particularly the accumulation of unsold products in the canteen unit. In the context of the pesantren economy,

marketing innovation is operationally defined as practical managerial adjustments implemented to improve product circulation among students. These adjustments include product bundling, diversification of snack offerings, repositioning of product displays, and the use of informal consumer feedback to identify preferred products. Meanwhile, waste reduction strategies refer to operational actions aimed at minimizing the risk of unsold or expired products through stock rotation, promotional bundling, and coordination with suppliers. Rather than being implemented as separate strategies, both approaches operate simultaneously as part of daily operational routines. This integration indicates that sustainability in the pesantren micro-enterprise is maintained through the continuous alignment between product supply and student consumption behavior.

Interview findings further illustrate how these strategies are understood by the pesantren management. The head of the pesantren business unit (Inf-01) emphasized that unsold products had previously created financial inefficiencies within the canteen operation. According to the informant, *“If unsold goods continue to accumulate, the financial circulation of the business unit will be disturbed.”* This statement indicates that the management recognizes inventory stagnation as a direct threat to business sustainability. As a response, the management encourages canteen operators to adopt simple marketing adjustments that can accelerate product turnover. From this perspective, marketing innovation is not primarily seen as a promotional strategy but as a mechanism to maintain the financial circulation of the pesantren economic unit.

Similar insights emerged from interviews with the canteen manager (Inf-02), who highlighted the practical constraints faced in daily operations. The informant explained that operational tasks such as arranging products and serving students dominate daily activities, leaving limited time for strategic marketing planning. As stated by the informant, *“Most of our time is spent preparing goods and serving students, so strategies like bundling become the easiest way to make products sell faster.”* This statement demonstrates that marketing innovation in the pesantren canteen evolves through practical experimentation rather than formal planning. As a result, simple strategies such as bundling products, adjusting product placement, and rotating inventory gradually become routine practices that help prevent product stagnation and maintain product circulation.

Observational findings reinforce the interview results by revealing how marketing innovation is embedded in the physical organization of the canteen environment. During field observations, several products with relatively low demand were intentionally placed together with popular items and offered in bundled packages. Products approaching their expiration date were also placed

in more visible display areas to encourage faster sales. These visual arrangements suggest that the canteen management continuously adapts product display strategies to influence purchasing behavior among students. Such practices indicate that marketing innovation operates not only at the conceptual level but also through spatial management of product displays within the canteen environment. These operational adjustments collectively contribute to the reduction of unsold products and help maintain efficient inventory circulation.

A deeper analysis of the interview and observation data reveals a recurring pattern linking marketing innovation with waste reduction and business sustainability. The findings indicate that simple marketing innovations indirectly reduce waste by accelerating product circulation. When products are presented in more attractive packages or bundles, students show greater purchasing interest, which leads to faster stock turnover and reduces the likelihood of product expiration. This relationship forms a sustainability mechanism within the pesantren micro-enterprise ecosystem. The conceptual relationship derived from field data is illustrated in Figure 1, which demonstrates how marketing innovation stimulates consumer interest, accelerates inventory circulation, and ultimately reduces product waste.

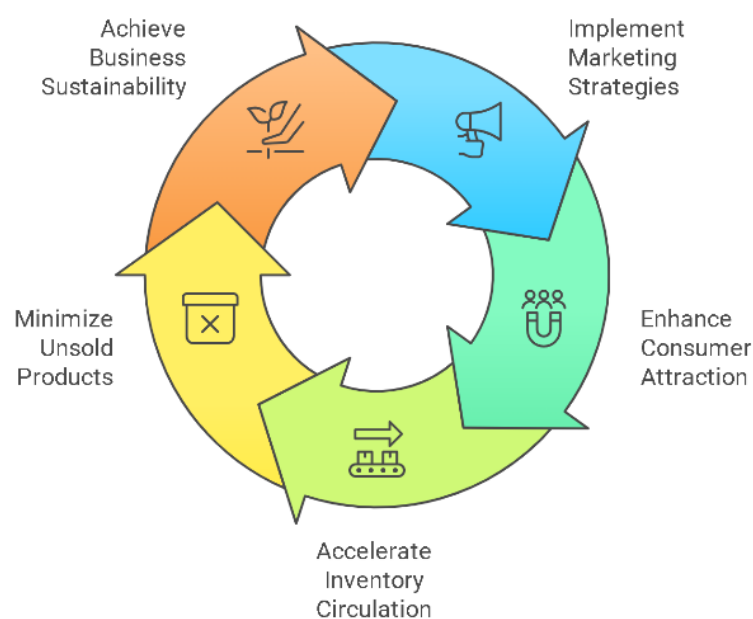


Figure 1. Marketing Innovation–Waste Reduction Model in Pesantren Micro-Enterprises

The model presented in Figure 1 highlights that waste reduction in the pesantren micro-enterprise is not implemented as a separate environmental strategy but rather emerges as a consequence of marketing innovation. By

increasing the attractiveness of products and improving the speed of product circulation, the canteen management effectively minimizes the accumulation of unsold goods. This finding demonstrates that marketing innovation plays a central role in sustaining the operational stability of the pesantren economic unit.

Another important pattern emerging from the data concerns the influence of pesantren values on business practices. The concept of avoiding waste (israf) and promoting collective benefit (maslahah) strongly shapes how canteen staff manage resources and respond to operational challenges. Waste reduction is therefore perceived not only as an economic necessity but also as an ethical responsibility aligned with Islamic economic principles. This value-based orientation encourages staff to carefully manage stock levels, avoid excessive product accumulation, and continuously adapt product offerings to student preferences. The interaction between ethical values and operational practices forms a distinctive sustainability mechanism within the pesantren micro-enterprise ecosystem.

The integration of ethical values and operational innovation can be conceptualized as a value-driven sustainability model in which religious principles guide practical business decisions. As illustrated in Figure 2, pesantren values influence managerial attitudes toward efficiency and responsibility, which subsequently encourage the adoption of adaptive marketing strategies. These strategies contribute to improved product circulation and ultimately support the sustainability of the micro-enterprise.

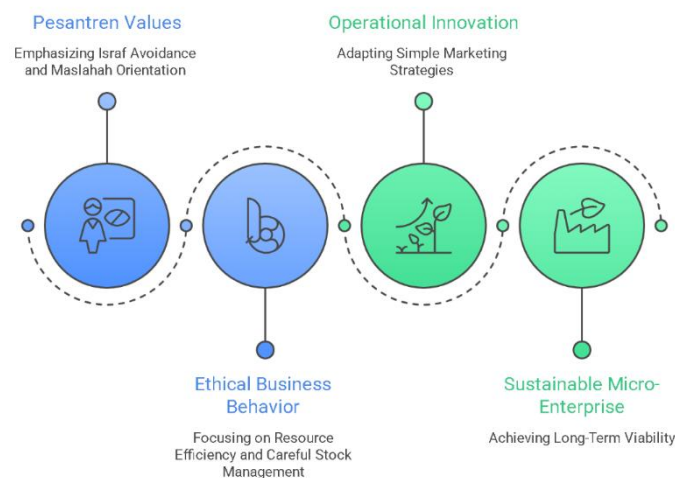


Figure 2. Value-Driven Business Sustainability in Pesantren Micro-Enterprises.

The model presented in Figure 2 suggests that sustainability in pesantren-based micro-enterprises is shaped not only by managerial innovation but also by value-based economic behavior. The combination of ethical awareness, adaptive marketing practices, and efficient resource management forms a distinctive sustainability mechanism that differentiates pesantren micro-enterprises from conventional small business models. These findings indicate that the integration of marketing innovation and value-driven management plays a crucial role in strengthening the resilience and sustainability of pesantren-based economic units.

DISCUSSION

The findings reveal that the sustainable business practices implemented in the pesantren-based micro-enterprise operate through a practical integration of marketing innovation and waste reduction strategies within a community-oriented economic environment. Rather than relying on complex managerial systems, the pesantren canteen develops adaptive mechanisms that link product circulation, consumer engagement, and resource efficiency. Marketing innovation manifested through product bundling, display adjustments, and product variation functions as a practical strategy to increase purchasing interest among students while simultaneously accelerating inventory turnover. In parallel, waste reduction emerges through operational adjustments such as stock rotation and selective product procurement. Together, these mechanisms form a localized sustainable business model in which operational efficiency is maintained through continuous adaptation to consumer behavior. Importantly, this model reflects the institutional character of pesantren economic units, where commercial activities are embedded within broader educational and social objectives, thereby creating a hybrid system that combines entrepreneurship, community service, and ethical economic practices.

In many respects, these findings resonate with broader discussions in the literature on sustainable business models and circular economy practices. Previous studies emphasize that waste reduction and efficient resource circulation represent key principles in sustainable enterprise management (Zahran, 2024). Similarly, the concept of green marketing highlights the importance of aligning marketing strategies with environmental responsibility and resource efficiency (Alkandi, 2025). The marketing practices observed in the pesantren canteen particularly the use of bundling strategies and adaptive product display can be interpreted as micro-scale implementations of circular resource management, where unsold inventory is minimized through increased

product circulation. This aligns with research demonstrating that small enterprises often implement sustainability through incremental innovation rather than large technological investments (Al-Khatib & Al-ghanem, 2022). Consequently, the pesantren case confirms the argument that sustainable business models can emerge from practical managerial adaptations that integrate marketing strategies with operational efficiency.

Nevertheless, the pesantren context introduces an important dimension that distinguishes this model from conventional sustainability frameworks. Unlike typical small enterprises driven primarily by profit maximization, pesantren economic activities are shaped by ethical and religious values that influence managerial decisions. The principle of avoiding waste (*israf*) and prioritizing collective benefit (*maslahah*) forms a moral foundation that encourages careful resource utilization and responsible business conduct. This ethical orientation creates a distinctive sustainability logic in which waste reduction is not solely motivated by economic efficiency but also by moral responsibility. Such dynamics extend existing sustainability literature by highlighting how religious institutions can internalize ecological and economic responsibility through value-driven practices. The pesantren model therefore demonstrates that sustainability can be reinforced not only by market incentives but also by cultural and spiritual values embedded within organizational structures.

From a theoretical perspective, these findings contribute to the expanding discourse on social entrepreneurship and community-based economic development. Much of the literature on sustainable business models emphasizes the role of technological innovation and market-driven strategies in achieving sustainability outcomes (Girma et al., 2025). However, the pesantren case suggests that sustainability can also emerge through institutional culture and ethical norms that guide everyday business practices. In this sense, pesantren-based enterprises function as hybrid organizations that integrate economic objectives with educational and social missions. This expands the theoretical understanding of sustainable entrepreneurship by demonstrating how value-oriented institutions can generate resilient micro-enterprises without relying heavily on formal managerial frameworks. The integration of marketing innovation, ethical resource management, and community participation therefore represents a distinctive pathway through which sustainable business models can develop within grassroots economic systems.

Beyond theoretical contributions, the findings also carry important practical implications for the development of regional economic independence. Pesantren institutions, which are widely distributed across Indonesia, possess significant potential to function as local economic hubs capable of supporting

community-based entrepreneurship. The adaptive strategies identified in this study demonstrate that small-scale business units within pesantren can maintain sustainability through relatively simple yet effective managerial practices. For policymakers and regional development planners, this model highlights the strategic role of pesantren in strengthening local economic resilience, particularly in areas where formal economic infrastructure remains limited. By supporting entrepreneurial capacity, improving business training, and facilitating market access for pesantren-based enterprises, local governments can leverage these institutions as catalysts for regional economic independence. Ultimately, the integration of ethical values, entrepreneurial innovation, and community engagement positions pesantren as a promising model for sustainable grassroots economic development.

CONCLUSION

This study demonstrates that business sustainability within pesantren-based micro-enterprises is supported by the integration of marketing innovation and waste reduction strategies that evolve from practical managerial adaptations. In the pesantren canteen examined in this research, marketing innovation takes the form of simple yet effective practices such as product bundling, product variation, adaptive product displays, and responsiveness to student consumption preferences. These practices function not merely as promotional tools but as operational mechanisms that accelerate product circulation and prevent inventory stagnation. As a result, waste reduction emerges as a natural outcome of improved inventory turnover rather than as an isolated environmental initiative. An important insight from these findings is that sustainability within community-based enterprises can develop through incremental innovations embedded in everyday operational routines. Furthermore, pesantren values particularly the ethical principle of avoiding waste (*israf*) and promoting collective benefit (*maslahah*) reinforce managerial awareness of resource efficiency and encourage responsible economic behavior. This interaction between operational innovation and ethical orientation forms a distinctive sustainability mechanism within pesantren economic units.

The strength of this study lies in its ability to reveal how sustainable business practices can emerge from grassroots institutional contexts that combine entrepreneurship with ethical and educational values. By examining the interaction between marketing innovation, waste management, and value-based economic behavior, this research contributes to the literature on sustainable business models and community-based entrepreneurship. The findings expand current discussions on small business sustainability by showing that effective operational innovation in resource-limited environments does not necessarily

depend on technological sophistication but can instead develop through adaptive management and institutional culture. However, the study is limited to a single pesantren-based micro-enterprise, which may restrict the generalization of its findings to broader contexts. Future research is therefore encouraged to examine multiple pesantren economic units across different regions and employ comparative or mixed-method approaches to assess how variations in institutional management, technological adoption, and market networks influence sustainable business practices. Such investigations would provide deeper insights into the potential role of Islamic educational institutions as drivers of sustainable community-based economic development and regional economic resilience.

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