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Transformation of traditional warung competitiveness through quick commerce: A systematic literature review

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Abstract
Traditional warungs in Indonesia's retail ecosystem face a growing challenge from quick commerce. This systematic literature review, following the PRISMA protocol, explores how warungs can transform into quick commerce entities to enhance competitiveness from 2019–2024. Analyzing 23 sources, the study found that key success factors include operational digitalization, platform integration, and using warung locations as dark stores. The research indicates that quick commerce adoption improves efficiency and professionalizes these informal businesses. However, barriers like low digital literacy and platform dependency remain. Therefore, targeted interventions such as digital training and technological incentives are crucial. The study concludes that quick commerce is a strategic opportunity for warungs to not only survive but also thrive in the competitive digital market with appropriate strategies and ecosystem support.
Keywords: Traditional Warung; Quick Commerce; Competitiveness; Digitalization.

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INTRODUCTION

Traditional warungs play a crucial role in Indonesia's retail ecosystem. According to data from Statistics Indonesia (BPS, 2018), micro, small, and medium enterprises (MSMEs), including traditional neighborhood shops, account for over 85% of total business entities in the country. However, their presence is increasingly pressured by the emergence of digital platforms used by modern retailers, such as quick commerce (q-commerce), e-commerce, and modern convenience stores. Quick commerce itself is a technology-based retail business model offering ultra-fast delivery typically within 15–30 minutes and gained popularity during the pandemic (McKinsey & Company, 2022). Platforms such as GoMart, GrabMart, J&T Mart, and Tokopedia Now have expanded consumer access to local products, including those sourced from traditional warungs.

The period 2019–2024 marks a highly dynamic phase of transformation for warung businesses in Indonesia. This period has been shaped by several key phenomena, particularly the impact of the COVID-19 pandemic, accelerated digitalization, and shifting consumer behavior, collectively reshaping the landscape for MSMEs (Kurniawati et al., 2021; World Bank, 2021). The pandemic acted as a major catalyst for MSME digitalization, including warungs, as many entrepreneurs began leveraging digital platforms to sustain operations during physical activity restrictions (OECD & SEADRI, 2021). On the other hand, business competition has intensified, forcing warungs to compete not only with modern retailers but also with fellow warungs that adapt faster to technological changes (Dwyanti, 2024).

Despite growing competitive pressures, most traditional warungs in Indonesia demonstrate high resilience. They adapt by identifying new market niches, such as focusing on online services and takeaway options (Maryasih, 2022). This is supported by an Infobanknews (2024) survey showing that the majority of the middle class still enjoys shopping at traditional warungs, proving that the potential of the traditional market remains strong. Additionally, there is significant motivation among warung owners to "upgrade," improve business management, financial literacy, and enter the digital world (Rahardian et al., 2024). This situation has led warung owners to become familiar with the concept of quick commerce, viewing it as a potential strategy to provide super-fast service to surrounding communities (Agustin & Wibowo, 2022).

Considering the complex market dynamics, threats and opportunities of digitalization, and the urgency for traditional warungs to adapt, it is important to systematically synthesize existing evidence. While research on MSMEs and digitalization exists, there is no comprehensive review specifically examining how warungs can integrate and utilize the quick commerce model to enhance their competitiveness in Indonesia between 2019 and 2024.

Therefore, this study employs a Systematic Literature Review (SLR) to identify, evaluate, and synthesize relevant literature on the integration of quick commerce in traditional warungs. It aims to answer the following research question: What strategies do warungs employ to enhance their competitiveness through transformation into quick commerce entities?

By analyzing key strategies, enablers, challenges, and impacts, this study seeks to provide evidence-based insights for entrepreneurs, policymakers, and digital platform developers to support the digital transformation of micro-enterprises in Indonesia’s evolving retail landscape.

RESEARCH METHOD

This study adopts the Systematic Literature Review (SLR) method. SLR is a highly structured and comprehensive research approach designed to systematically identify, evaluate, and interpret all relevant studies related to a specific question, topic, or phenomenon (Kitchenham, 2004). In its implementation, this SLR follows the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol. It is important to note that PRISMA is not a research method itself, but rather a reporting guideline aimed at improving transparency and completeness in presenting systematic reviews and meta-analyses (Moher et al., 2009).

Broadly, the SLR methodology in this study is organized into two main phases: Planning the Review Protocol and Conducting the Review (Kitchenham & Charters, 2007; Liberati et al.,

2009; Moher et al., 2009). This rigorous and systematic approach enables researchers to collect, analyze, and synthesize available evidence on how warungs can enhance competitiveness through quick commerce objectively and transparently. The process is divided into five detailed stages.

The first stage begins with planning the review protocol, which includes identifying the topic and formulating a clear research question. In this study, the research question posed is: *"What strategies do warungs employ to enhance their competitiveness through transformation into quick commerce entities?"* To answer this question, the researchers determined a comprehensive set of keywords to ensure no relevant study was overlooked. Keywords used include: warung, MSME, quick commerce, q-commerce, competitiveness, Indonesia retail, and digital transformation (Kitchenham & Charters, 2007). Additionally, during the protocol planning stage, inclusion and exclusion criteria were established to screen relevant studies specifically and ensure consistency in selection (Liberati et al., 2009). These criteria include publications within the last five years (2019–2024), written in English or Indonesian, and focused on warungs, quick commerce, and MSME competitiveness.

After the review protocol was prepared, the study proceeded to the conducting the review phase, beginning with literature search. This involved using various academic databases to ensure broad coverage of literature and reduce potential bias (Moher et al., 2009). Databases utilized include Google Scholar, ScienceDirect, Scopus, ProQuest, and Portal Garuda Kemdikbud. Then, articles identified through the search underwent a screening process. This stage involves initial evaluation based on title and abstract, followed by full-text reading to ensure relevance to the research question and predefined inclusion/exclusion criteria. This stepwise screening process is a standard practice in SLR to achieve efficiency and accuracy (Moher et al., 2009). The number of studies retained at each PRISMA stage is summarized in Table 1. The final stage in the conducting phase is data synthesis and results reporting. In this analysis, thematic analysis was employed to identify and organize recurring patterns, ideas, and research trends from diverse literature (Booth et al., 2012). Transparency in reporting was emphasized, including specifying the total number and types of references analyzed. In this study, a total of 23 selected references were analyzed, consisting of 17 academic journal articles, 3 government reports, 2 company case studies, and 1 e-commerce industry white paper.

Table 1. PRISMA Flow Diagram Summary

PRISMA Stage	Number of Studies
Identification: Total records from all databases (Google Scholar, ScienceDirect, Scopus, ProQuest, Portal Garuda)	126
Screening: After removing duplicates and irrelevant titles/abstracts	54
Eligibility: Full-text assessed against inclusion criteria	29
Included: Final studies synthesized	23

RESULTS AND DISCUSSION

Based on a systematic analysis of 23 literature sources meeting the inclusion criteria, it was found that the implementation of quick commerce in traditional warungs holds significant potential to enhance their competitiveness against modern retailers. The synthesized findings can be understood across three interrelated dimensions: Enablers, Strategies, and Outcomes.

1. Enablers (Technological and Operational Adoption): Key findings indicate that operational digitalization is one of the foundational elements in micro-business transformation. Warungs that begin adopting digital tools—such as app-based inventory management systems, instant messaging (WhatsApp or Telegram), and electronic payment platforms—are able to significantly improve work efficiency and responsiveness to customer demand (Agustin & Wibowo, 2022). This change demonstrates that even simple technological adoption can have a substantial impact on altering traditional warung operations.

2. Strategies (Platform Integration & Infrastructure Optimization): Integrating warungs with quick commerce platforms such as GoMart, GrabMart, and Tokopedia Now has opened new opportunities in terms of market reach. Warungs are no longer limited by the geographic radius of their physical location but can now serve a broader customer base through fast delivery services. According to Statista Research Department (2023), these platforms not only help increase transaction volume but also strengthen warung visibility among tech-savvy urban consumers who prioritize speed and convenience. Furthermore, strategically located warungs demonstrate the ability to function as dark stores—mini warehouses used as fulfillment centers within ultra-fast delivery ecosystems (Deloitte Insights, 2021; Rahardian et al., 2024).
3. Outcomes (Customer Experience & Business Formalization): Enhancing customer experience is another crucial factor in increasing loyalty and visit frequency. NielsenIQ (2022) reports that fast delivery—the hallmark of quick commerce—has become a competitive differentiator, especially among digitally native younger generations. Furthermore, quick commerce adoption serves as a gateway for traditional warungs to transition from informal businesses to more modern and structured operational models. The Ministry of Cooperatives and SMEs of the Republic of Indonesia states that MSME owners gain enhanced operational literacy, digital reporting skills, and access to formal financial services such as data-based digital transaction loans (Kementerian Koperasi dan UKM RI, 2022).

Discussion

Theoretical Implications

The literature findings suggest that quick commerce is not merely a technological innovation in retail, but an important catalyst for micro-business transformation, particularly for traditional warungs in Indonesia. From a theoretical standpoint, this study contributes to the literature on MSME digital transformation by illustrating how informal, micro-retail entities can bridge the socio-technical divide through hyperlocal digital ecosystems (Rahardian et al., 2024).

First, the optimization of strategic warung locations to function as dark stores or micro-fulfillment centers presents a novel hybrid model that integrates traditional physical assets with digital logistics. This integration provides warungs with a localized speed advantage that conventional e-commerce models cannot easily replicate. Second, the paradigm shift from hyper-local neighborhood dependence to extended urban customer reach expands existing conceptualizations of retail gravity and trade area boundaries for traditional micro-enterprises.

Managerial and Practical Implications

From a practical and managerial perspective, the digital transformation of warungs through quick commerce highlights several actionable insights:

1. Operational Simplicity: Technological adoption barriers do not always lie in complexity, but rather in initiating and utilizing appropriate, low-barrier tools such as messaging apps or basic electronic point-of-sale (e-POS) systems.
2. Mitigating Platform Dependency: While quick commerce platforms enhance market access, heavy reliance on external algorithms and fluctuating commission structures poses long-term risks to profitability. Warung operators must seek balanced partnership models or explore hyperlocal collective bargaining units (e.g., digital cooperatives).
3. Addressing Digital Literacy: Structural challenges, particularly low digital literacy among traditional merchants, necessitate targeted training programs. Without continuous educational support, micro-entrepreneurs struggle to leverage advanced platform features or utilize data analytics for inventory planning.

Research Limitations

This study has several limitations that should be noted for accurate interpretation of results.

First, the literature coverage is limited to the 2019–2024 timeframe, meaning pre-2019 studies were excluded despite possible relevance. This restriction was implemented to ensure data currency and alignment with the digital transformation period of Indonesian warungs. However, this approach may result in the loss of historical insights into the evolution of traditional retail before quick commerce emerged strongly. While time-bound approaches are often necessary for relevance, they may overlook long-term phenomenon evolution (Denscombe, 2014; Kitchenham & Charters, 2007; Webster & Watson, 2002).

Second, this study includes only literature available in English and Indonesian, potentially introducing language bias and excluding local or regional sources not published in these languages. This could hinder obtaining a more inclusive and in-depth perspective from various regions across Indonesia, given the diversity of local MSME contexts (Liberati et al., 2009; Tranfield et al., 2003).

Third, the number of analyzed literature sources (n=23) is relatively small compared to general MSME digitalization studies. Although the selected literature meets inclusion criteria and provides a representative picture, the limited sample size may restrict the generalizability of findings to broader contexts (Glasziou et al., 2021; Moher et al., 2009; Siddaway et al., 2014).

Fourth, reliance on secondary literature such as government reports, company case studies, and industry white papers makes this analysis more descriptive than exploratory. Primary data from surveys or direct interviews with warung owners would provide deeper insight into on-the-ground challenges and opportunities in implementing quick commerce, as well as nuances not fully captured in secondary studies (Booth et al., 2012; Creswell, 2014).

Future Research

Based on the identified limitations, several directions for future research are proposed:

1. Empirical and Quantitative Validation: Future studies should employ quantitative empirical approaches (e.g., longitudinal surveys or econometric modeling) to precisely measure financial indicators, such as revenue growth percentages, profit margins, and customer retention rates resulting from quick commerce adoption.
2. Multi-Location Qualitative Research: Qualitative approaches such as in-depth interviews or focus group discussions across diverse Indonesian provinces can capture regional nuances and local MSME dynamics not fully reflected in existing literature (Agustin & Wibowo, 2022).
3. Framework Development: Developing a comprehensive implementation framework for warung-level quick commerce, incorporating technological, operational, and ecosystem support dimensions, tested via pilot field experiments (Statista Research Department, 2023).
4. Cross-Country Comparative Studies: Conducting comparative analyses with peer emerging economies (e.g., Vietnam, the Philippines, or Thailand) to assess the replicability of Indonesia's warung-based quick commerce model (OECD & SEADRI, 2021).
5. Platform Governance and Independence: Investigating independent business models or digital cooperatives to mitigate external platform dependence and algorithmic vulnerability among micro-merchants (McKinsey & Company, 2022).

Practical Recommendations

To support wider adoption of quick commerce among traditional warungs, several practical recommendations are proposed based on the literature review findings:

First, intensive digital training programs are needed, conducted by local governments in collaboration with digital platforms. Training should cover app usage, order management, and promotion feature utilization within platforms. Without educational support, many warungs will struggle to understand optimal ways to leverage digital tools.

Second, providing subsidies or technological incentives is crucial to facilitate adaptation. Assistance such as receipt printers, internet connectivity, or tablets for receiving orders can serve

as effective starting points. These incentives can be delivered through local government programs or corporate social responsibility (CSR) initiatives by technology companies.

Third, strengthening collaboration among warungs is a strategic step. Warungs can join cooperatives or micro-enterprise communities that mutually support logistics, bulk procurement, or negotiations with digital platforms. Thus, they act not just as vulnerable individuals but gain better bargaining power.

CONCLUSION

Based on the systematic literature review of 23 selected sources, it can be concluded that quick commerce plays a crucial role in enhancing the competitiveness of traditional warungs in Indonesia. Implementing this technology-based business model enables warungs not only to expand market reach and increase transaction frequency through fast delivery services but also serves as a vital pathway for operational transformation from informal ventures into more structured and professional businesses. Integration with leading digital platforms has proven effective in connecting warungs with urban consumers who value convenience and speed.

Key findings confirm that operational digitalization—ranging from inventory management apps to electronic payments—significantly improves work efficiency and market responsiveness. Furthermore, leveraging strategic warung locations as dark stores strengthens their position within modern retail distribution ecosystems. Warungs successfully adopting quick commerce principles demonstrate increased customer loyalty and income stability, even amidst intense competition from modern retailers and large e-commerce platforms.

However, quick commerce adoption among warungs still faces significant barriers, particularly low digital literacy and dependence on external platforms. Therefore, structured support from local governments—through intensive technology training and infrastructure incentives—is essential to empower more warungs to optimally leverage digitalization opportunities.

Overall, quick commerce is more than just an innovation; it represents a promising revitalization strategy for micro-businesses in Indonesia. With the right approach and ecosystem support, traditional warungs can not only survive but also thrive adaptively in an increasingly competitive and digital-driven business landscape.

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