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Implementation of Enterprise Resource Planning (ERP) within Seven Clusters of the Warung Tegal "Bahari" Franchise Network in South Jakarta

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Abstract

This study investigates how Enterprise Resource Planning (ERP) implementation reshapes organizational communication within the seven operational clusters of the Warung Tegal (Warteg) "Bahari" franchise in South Jakarta. While the network historically relied on informal coordination and manual bookkeeping, the introduction of ERP marks a strategic shift toward synchronized digital workflows. Using a qualitative descriptive design, data were gathered through in-depth interviews with 14 key informants, including franchisors, coordinators, and managers, alongside participant observations and document reviews. The findings reveal that ERP significantly enhances communication clarity and managerial transparency through real-time data flow and standardized reporting, effectively reducing the miscommunication common in manual systems. However, optimal implementation is hindered by critical barriers such as uneven digital literacy, limited training, and unstable internet connectivity. Furthermore, resistance to abandoning long-standing manual habits remains a challenge. The study concludes that while ERP provides a foundation for an accountable franchise model, its success depends on adaptive leadership and continuous digital capacity-building. These results offer practical insights for digital transformation in community-based culinary enterprises.

KEYWORDS

ERP; seven clusters; warteg franchise network; Bahari brand; South Jakarta

Introduction

For decades, Warung Tegal (Warteg) has been recognized as a grassroots culinary business model characterized by simple operations, informal management, and close-knit owner–customer relationships. Traditionally, Warteg relied heavily on manual bookkeeping, verbal communication, and cash-based daily transactions. Coordination across outlets, particularly within franchise networks, depended on trust-based informal routines, making information accuracy and managerial oversight difficult to maintain (Febriyanti et al., 2023). While this conventional model enabled organic growth, it also created structural limitations in transparency, documentation, and inter-branch coordination.

Amid shifting consumer behavior and expanding digital adoption, Warteg has gradually evolved into a more structured micro-franchise model featuring standardized menus, centralized procurement, and brand-oriented management

(Astuti et al., 2022).

The Warteg Bahari network in South Jakarta, organized into seven operational clusters, illustrates this transition from individual stall autonomy toward a coordinated franchise ecosystem. However, this transformation has also exposed persistent communication gaps, including inconsistent financial reporting, delays in inventory updates, and fragmented coordination between franchisor and franchisees. Prior to Enterprise Resource Planning (ERP) adoption, communication across clusters remained largely manual and unsynchronized, relying on phone calls, WhatsApp messages, and handwritten records that were increasingly inadequate for real-time decision-making.

These problems define the current state, representing the empirical reality of Warteg's digital transition. Before the adoption of Enterprise Resource Planning (ERP), communication across the seven clusters remained highly manual and uncoordinated, an ideal condition in which all clusters operate through integrated digital workflows supported by automated reporting, centralized monitoring, and standardized communication. Nevertheless, early implementation revealed several challenges, such as uneven digital literacy among staff, limited training, unstable internet connectivity, and resistance to shifting from long-established manual routines (Adha et al., 2019). These issues indicate that ERP adoption in micro-franchise settings requires not only technological deployment but also organizational readiness, behavioral adaptation, and stronger alignment between cluster management and outlet-level operations.

Although ERP has been widely studied in large organizations and conventional MSMEs, research focusing on micro-franchise ecosystems like Warteg networks remains limited. Existing studies largely emphasize operational efficiency and firm performance rather than communication coordination across decentralized outlets. Consequently, the communicative implications of ERP within multi-cluster culinary franchises in Indonesia are still underexplored. These conditions demonstrate that while ERP provides a pathway toward a more integrated and accountable franchise ecosystem, its optimization requires more than technological adoption. It demands organizational readiness, behavioral adjustment, and alignment between cluster-level management and individual stall operations.

This study aims to: 1) analyze the implementation of ERP across the seven clusters of the Warteg Bahari network; 2) evaluate the effectiveness of ERP in improving inter-branch communication coordination; and 3) identify key barriers and organizational factors affecting ERP optimization within the Warteg micro-franchise ecosystem.

Widya Refri Faranita, (2021) found that while ERP systems improve operational efficiency among Indonesian MSMEs, their implementation often faces constraints related to limited human resources and financial capacity, with little attention to how ERP affects inter-branch communication or coordination. Similarly, (Putra et al., 2021) examined ERP's impact on company performance through the mediating role of organizational capability, emphasizing productivity rather than communication efficiency within decentralized business networks. Meanwhile, (Putra et al., 2021) highlighted the cultural and behavioral barriers to ERP adoption among Javanese MSMEs, demonstrating how human factors and local business culture influence technological acceptance; however, their study did not address the communication integration challenges typical in multi-branch franchise systems. Collectively, these studies reveal that research on ERP implementation in small-scale, community-based

franchise networks remains limited, particularly regarding its role in strengthening organizational communication and coordination.

The remainder of this paper is organized as follows. The next section reviews the literature on ERP and organizational communication in MSMEs and franchise systems. The research methodology is then presented, followed by findings and discussion on ERP implementation within the Warteg Bahari clusters. The final section concludes the study and offers recommendations for strengthening sustainable digital transformation in Indonesia's MSME sector.

ERP in MSMEs

Enterprise Resource Planning (ERP) refers to an integrated digital system that unifies core business functions, such as finance, supply chain, human resources, and operations, within a real-time data environment to improve coordination and decision-making (Chen et al., 2021; Prabowo et al., 2022). In the context of micro, small, and medium enterprises (MSMEs), ERP adoption is increasingly viewed not merely as an administrative upgrade but as a strategic infrastructure that supports scalability, transparency, and process standardization (Oracle ERP, 2024).

For micro-franchise businesses such as Warung Tegal (Warteg), ERP functions beyond back-office automation. It operates as a data-driven communication platform linking franchisors and franchisees through structured information flows. Unlike conventional reporting that relies heavily on verbal updates or manual records, ERP transmits standardized digital data, enabling real-time visibility across outlets. This shift reflects a broader movement from fragmented, trust-based coordination toward system-enabled integration within MSME ecosystems.

However, prior MSME studies consistently note that ERP implementation often encounters barriers related to limited digital literacy, resource constraints, and uneven organizational readiness. These constraints are particularly salient in grassroots culinary franchises, where operational routines have long been shaped by informal practices (Pasaribu, 2020).

Organizational and Franchise Communication

From an organizational communication perspective, the effectiveness of information flow, both vertical and horizontal, plays a decisive role in ensuring operational alignment and decision quality (Supartha & Sintaasih, 2017). In franchise systems, vertical communication typically involves top-down policy directives and bottom-up performance reporting between franchisor and franchisee, while horizontal communication facilitates peer learning and coordination among outlets (Zamzami & Sahana, 2021).

ERP systems have the potential to strengthen these communication dimensions by: a) standardizing reporting formats, b) automating feedback loops, and c) improving message traceability and accuracy. Consistent with communication network theory (Adi, 2019), organizations can be understood as dynamic information networks in which digital platforms enable faster, more transparent, and multi-directional communication flows. In this sense, ERP adoption represents not only technological change but also communication restructuring, particularly in decentralized franchise environments where coordination complexity is high.

Warteg and Franchise Management

Studies on Warteg development have primarily focused on managerial improvement, leadership adaptation, and general communication practices within small culinary

businesses (Novianti et al., 2018). While this body of work highlights the need for modernization, it rarely positions ERP as a mediating mechanism for enhancing communication efficiency across multi-branch networks (Novianti, 2018; Sukma & Pranawukir, 2020; Susanto et al., 2020; Widati & Madaniah, 2021).

Parallel research on MSME digitalization underscores persistent problems of operational inefficiency and limited technological capability, reinforcing the urgency of adopting integrated digital systems. Nevertheless, empirical attention to how ERP reshapes communication coordination in micro-franchise settings remains limited. This gap is particularly relevant for Warteg networks that operate through clustered governance structures and rely heavily on routine information exchange.

Conceptual Framework

Building on the literature, this study proposes that ERP utilization functions as a central enabling mechanism within the Warteg franchise ecosystem (Shahrir et al., 2023). Conceptually, ERP adoption is expected to improve communication effectiveness (through standardized, real-time, and traceable information flows). Enhanced communication effectiveness, in turn, strengthens operational coordination across franchise clusters (Maulana et al., 2022). However, the strength of these relationships is contingent upon the level of digital readiness, including user literacy, training adequacy, and infrastructure reliability. (Fajri & Shauki, 2023; Hanifah & Harriyanti, 2023)

In textual form, the proposed relationship can be summarized as follows: ERP Utilization → Communication Effectiveness → Operational Coordination, moderated by Digital Readiness (Zahara, 2018). This framework positions ERP not merely as a technological tool but as a socio-technical communication infrastructure whose effectiveness depends on organizational preparedness within micro-franchise environments.

Methods

This study employed a qualitative descriptive design as the primary approach, supported by descriptive quantitative data to strengthen interpretation of communication patterns across the seven operational clusters of the Warteg Bahari franchise network (Rizaldi et al., 2022; Sugiyono, 2013). The qualitative strand functioned as the core analytical lens (Alamsyah & Sukma, 2023), while quantitative questionnaire results were used for convergence and confirmation of emerging themes (Wijaya, 2015). Specifically, interview and observation findings were first used to identify patterns of communication effectiveness and coordination issues; subsequently, ordinal survey results were analyzed to examine whether user perceptions statistically aligned with the qualitative themes (Saputra, 2019; Yusanto, 2020). This sequential integration enabled methodological triangulation and enhanced interpretive validity. (Afriaris & Windartini, 2021; Fadli, 2021; Salsabila & Suyanto, 2020).

A non-probability purposive sampling strategy was applied because ERP users within the Warteg Bahari network occupy specific functional roles and therefore cannot be randomly selected. A total of 32 respondents were recruited from seven clusters based on the following criteria: (1) actively operating within the Bahari franchise system; (2) directly interacting with ERP modules; and (3) having a minimum of three months of system usage. This sampling logic reflects qualitative inquiry’s emphasis on information-rich participants rather than statistical representativeness (Bungin, 2006).

Data were collected through three complementary techniques: (1) in-depth interviews with 14 key informants (cluster heads, outlet managers, and ERP operator staff); (2) participant observation of ERP workflows in selected outlets; and (3) structured questionnaires using ordinal-scale items to measure user perceptions of communication

Table 1. Name of Network and Franchise Package (Source: Observation Result, 2024)

Num	Network Name	Franchise Package Name and Nominal			Etc.
1	Warteg New Bahari	Express	Konvensional	Modern	
		85 million	150 million	190 million	
2	Keluarga Bahari	Bronze	Silver	Gold	
		85 million	129.9 million	175 million	
3	Warteg Selera Bahari	Small	Regular	Great	
		135 – 180 million	177 – 250 million	310 –350 million	
4	Kharisma Bahari	Kecil	Reguler	Besar	
		135 – 180 million	177 – 250 million	310 – 350 million	
5	Warteg Kharisma Bahari Group	Kharisma Bahari Food Stall Packages	Mamoka Bahari Food Stall Packages	Bahari Subsidized Warteg Package	Bahari Harmonious Food Warteg Package
		Middle Budget	Minimum Budget	Start-Up Budget	Student Budget
6	Kharisma Bahari	Economy	Small	Medium	
		100 million	200 million	Exclusive	
7	Warteg Bahari	Kiosk Packet of Selera Bahari 188 million	Trainer Packet 368 million	Business Autopilot Packet 636 million	

clarity, transparency, and coordination effectiveness. The questionnaire comprised four variables and 26 measurement items designed to provide quantifiable indicators that could corroborate qualitative interpretations. Quantitative responses were analyzed using Spearman's Rank Correlation. This non-parametric test was selected because the data were ordinal (Likert scale), normality assumptions were not met, the sample size was relatively small, and the relationships examined were expected to be monotonic, reflecting gradual user adaptation to ERP features. The quantitative analysis therefore served a supportive explanatory function, rather than a standalone hypothesis-testing role.

Qualitative analysis followed a systematic thematic procedure. First, interview transcripts and observation notes were subjected to open coding to identify meaningful units related to communication flow, coordination practices, and user experience. Second, codes were grouped through axial coding into broader categories such as reporting standardization, real-time visibility, and adoption barriers. Third, selective coding was conducted to generate overarching themes that explain how ERP reshapes communication within the franchise network. Coding was performed manually using an iterative constant-comparison technique to ensure analytical rigor and theme saturation (Luthfiyah, 2020).

Integration of qualitative and quantitative findings occurred at the interpretation stage. Quantitative correlation patterns were compared with qualitative themes to determine convergence, complementarity, or divergence. This mixed evidence approach enabled a more holistic explanation of ERP implementation dynamics across the seven clusters.

This study is situated within a post-positivist paradigm, which assumes that social reality can be systematically investigated while acknowledging the influence of context and human interpretation. In practical terms, this paradigm guided the study to combine empirical measurement (survey correlations) with contextual understanding (interviews and observations), thereby balancing objectivity and interpretive depth.

Ethical procedures were strictly observed. All participants provided informed consent prior to data collection, were assured of anonymity and confidentiality, and were informed of their right to withdraw at any stage. Organizational identifiers of outlets and individual respondents were anonymized in transcripts and reporting to protect commercial and personal privacy. The seven Warteg franchise networks operating under centralized management are summarized in [Table 1](#).

Result and Discussion

The results section should present the key findings of the study.

For quantitative research, you might write:

The findings revealed significant relationships between managerial practices and organizational performance. Managers who implemented participatory decision-making were 2.7 times more likely to achieve high team performance (OR = 2.7; 95% CI: 2.0–3.6). Additionally, the frequency of professional development activities was positively associated with improved employee satisfaction.

The seven Warteg franchise networks examined in this study demonstrate varying levels of ERP sophistication, ranging from basic POS-based transaction systems to AI-driven CRM and multi-outlet cloud monitoring. Rather than

reflecting brand positioning alone, these differences indicate distinct communication architectures across clusters.

At the basic level (e.g., Economy packages in Kharisma Bahari B and several Bronze-type packages), ERP configuration is limited to POS systems with inventory tracking. In communication terms, this configuration primarily strengthens transactional accuracy but does not fully restructure vertical reporting patterns. Information still depends partly on manual confirmation with cluster coordinators.

At the intermediate level (e.g., New Bahari Modern, Selera Bahari Regular/Great), ERP systems integrate real-time dashboards, automated stock management, and cloud-based financial reporting. These configurations support stronger vertical transparency, as franchisors can directly monitor outlet performance without relying solely on verbal updates.

At the advanced level (e.g., Selera Bahari Business Autopilot; Kharisma Bahari B – Medium Exclusive), ERP includes AI-driven analytics and CRM features. Here, communication expands beyond internal coordination toward data-driven strategic decision-making, including predictive inventory management and customer behavior analysis.

Importantly, not all networks employ fully integrated ERP systems. Some, such as Karunia Bahari and Keluarga Bahari, rely heavily on WhatsApp combined with web dashboards. While these tools facilitate rapid communication, they do not standardize reporting formats to the same degree as centralized ERP platforms. Consequently, coordination remains partially dependent on human mediation. Thus, ERP configurations across networks can be interpreted as forming a continuum: Basic POS Integration → Dashboard-Based Monitoring → Multi-Outlet Cloud ERP → AI-Driven Strategic Systems. Each stage corresponds to increasing levels of communication formalization, traceability, and inter-cluster synchronization. (See [Table 2](#)).

Communication and Coordination Patterns from Field Data Vertical Communication

Interview data indicate that ERP adoption significantly alters vertical reporting dynamics between franchisors and franchisees. Before ERP, reporting relied on manual recap and WhatsApp submissions. After implementation, financial and inventory data became directly visible through dashboards. One cluster coordinator stated: "Previously, we waited for outlets to send recap photos at night. Now, we can see sales automatically. If something drops, we immediately contact the outlet." This reflects a shift from reactive communication to real-time supervisory monitoring. ERP reduces ambiguity in reporting and shortens feedback cycles.

However, uneven digital literacy affects this transformation. A cashier from one outlet explained: "We understand the system, but sometimes when the internet is unstable, we return to manual notes. Later we input it again." This illustrates that ERP-based communication remains contingent on infrastructure reliability and user readiness.

Horizontal Communication

Horizontal coordination among outlets also changes with ERP utilization. In networks using centralized dashboards, stock shortages can be identified earlier, enabling cross-outlet redistribution. In contrast, networks relying primarily on WhatsApp communication continue to depend on informal coordination patterns.

Table 2. ERP Implementation of 7 Warteg “Bahari” Cluster (Source: Research Result, 2024)

Num.	Network Name	Name and Nominal Franchise Packet	ERP Implementation
1	Warteg New Bahari	Express (85 Million)	YouTap POS & BOS for real-time transaction monitoring
		Konvensional (150 Million)	YouTap POS & BOS for real-time transaction monitoring Automated stock management integration
		Modern (190 Million)	YouTap POS & BOS for real-time transaction monitoring Cloud-based financial reporting system
2	Keluarga Bahari	Bronze (85 Million)	WhatsApp, a Web-based operational dashboard
		Silver (129.9 Million)	WhatsApp, a Web-based operational dashboard Personnel in charge are integrated with the supply chain
		Gold (175 Million)	WhatsApp, a Web-based operational dashboard Personnel in charge utilize driven analytics for decision making
3	Warteg Selera Bahari	Small (135 – 180 Million)	WhatsApp, Web Official Stock management and raw material requirement prediction
		Regular (177 – 250 Million)	WhatsApp, Web Official Stock management and raw material requirement prediction <i>Official Business Development</i>
		Great (310 – 350 Million)	WhatsApp, Web Official Stock management and raw material requirement prediction <i>Official Business Development</i> <i>ERP cloud-based with multi-outlet monitoring</i>
		Selera Bahari Kiosk (188 Million)	ERP integration with online marketing systems
		Warteg Trainer (368 Million)	Real-time data-based outlet performance analysis
		Business Autopilot (636 Million)	AI-based ERP with operational automation
4	Kharisma Bahari (A)	Small (135 – 180 Million)	Digital POS with inventory tracking
		Regular (177 – 250 Million)	Social media-based monitoring management
		Great (310 – 350 Million)	YouTap POS integration in financial management
5	Warteg Kharisma Bahari Group	Warteg Kharisma Bahari (Middle Budget)	PIC/Personnel in charge ERP system with multi-branch features
		Warteg Mamoka Bahari (Minimum Budget)	Automatic transaction recording with digital accounting (managed by PIC/Personnel in charge)
		Warteg Subsidi Bahari (Start Up Budget)	Mobile application for monitoring outlet performance
		Warteg Selaras Bahari (Studying Budget)	E-learning-based ERP training
6	Kharisma Bahari (B)	Economy (100 million)	POS system with inventory management
		Small (200 million)	Business dashboard with daily reports
		Medium (Exclusive)	AI-driven CRM (<i>Customer Relationship Management</i>) for loyal customers
7	Karunia Bahari	Regular Recommended 113,5 million	WhatsApp, Web Official

Table 3. Variables, Number of Items, and Reliability

Variable	Concept	Number of Items	Cronbach's Alpha
ERP Utilization (X)	Extent of system use in daily operations	8	0.874
Communication Effectiveness (Y1)	Clarity, timeliness, and accuracy of information flow	7	0.861
Operational Coordination (Y2)	Synchronization between clusters and outlets	6	0.823
Digital Readiness (M)	Literacy, adaptability, and training adequacy	5	0.812

One franchisee noted: "If raw materials are running out, we usually ask in the WhatsApp group. But now, with the dashboard, we know which outlet has excess stock." This suggests that ERP strengthens data-mediated peer coordination, reducing reliance on purely conversational exchanges.

Communication Standardization

ERP implementation standardizes reporting formats, thereby reducing interpretive variation. Financial transparency improves because transaction records are system-generated rather than manually summarized. This contributes to stronger trust between franchisor and franchisee, as data discrepancies can be traced. Nevertheless, adaptation challenges persist. Several outlets required additional training to align operational speed with system input requirements, indicating that communication restructuring requires behavioral adjustment.

A reliability test was performed using Cronbach's Alpha to ensure internal consistency. All constructs demonstrate strong internal consistency ($\alpha > 0.80$), indicating stable measurement of system use, communication clarity, coordination synchronization, and digital preparedness.

The reliability test using Cronbach's Alpha demonstrates that all variables in the questionnaire possess strong internal consistency. The ERP Utilization variable ($\alpha = 0.874$) shows the highest reliability, indicating that the eight items measuring system usage are highly cohesive and consistently capture the construct of operational ERP engagement. This suggests that respondents interpret ERP-related activities, such as data entry, monitoring, and reporting, in a relatively uniform manner across the seven clusters (See [table 3](#)).

Communication Effectiveness ($\alpha = 0.861$) also reflects excellent reliability. The consistency of its seven items implies that clarity, timeliness, and accuracy of information flow are perceived similarly among ERP users, reinforcing the notion that communication patterns within the franchise network are systematically influenced by ERP adoption. Operational Coordination ($\alpha = 0.823$) indicates strong reliability as well. The six items used to measure coordination across clusters and outlets consistently align, suggesting that synchronization activities, such as inventory alignment, managerial reporting, and operational decision-making, are captured effectively through the questionnaire.

The Digital Readiness variable ($\alpha = 0.812$) also meets the reliability threshold for high internal consistency. This shows that indicators related to literacy, adaptability, and training adequacy reliably represent the users' preparedness in adopting digital tools. Overall, because all variables exceed the recommended $\alpha \geq 0.80$ threshold, the instrument can be considered highly reliable. This means respondents provided stable and consistent answers across items within each variable, enhancing the credibility of the quantitative findings that support the qualitative analysis in this study.

Spearman's Rank Correlation analysis indicates:

- ERP Utilization positively correlates with Communication Effectiveness ($\rho = 0.68$, $p < 0.01$)
- ERP Utilization positively correlates with Operational Coordination ($\rho = 0.61$, $p < 0.01$)
- Digital Readiness shows a moderate positive correlation with ERP Utilization ($\rho = 0.55$, $p < 0.01$)

These findings suggest that higher ERP engagement is associated with clearer information flow and stronger synchronization across clusters. Moreover, digital readiness appears to condition the strength of ERP use, supporting the conceptual framework proposed earlier.

When qualitative and quantitative findings are integrated, a consistent pattern emerges:

- Interview data reveal improved real-time visibility and faster supervisory feedback.
- Correlation analysis confirms that greater ERP utilization is statistically associated with higher perceived communication effectiveness.
- Digital readiness moderates practical implementation, explaining variations across clusters.

Thus, ERP utilization functions not merely as a technical upgrade but as a communication restructuring mechanism that enhances vertical transparency and horizontal coordination within micro-franchise ecosystems. However, the transformation remains asymmetrical across networks, reflecting differences in investment capacity, digital literacy, and system integration depth. This uneven maturity explains why some clusters already exhibit near real-time coordination while others still operate in hybrid manual-digital modes. In sum, the evidence indicates that ERP utilization significantly enhances communication effectiveness and operational coordination across Warteg franchise clusters, but the magnitude of impact depends strongly on digital readiness and the level of system integration achieved.

Diffusion of ERP Across Warteg Networks

The empirical pattern across the seven Bahari networks reflects a tiered diffusion process consistent with Rogers' Diffusion of Innovation theory. Rather than uniform adoption, ERP maturity follows adopter categories shaped by investment capacity, digital readiness, and governance structure. Based on field evidence, the clusters can be analytically positioned as follows:

- Early adopters. New Bahari (Modern packages), Selera Bahari (Great-Autopilot), and Kharisma Bahari (B – Medium Exclusive). These networks exhibit cloud integration, multi-outlet monitoring, and AI-enabled features. Their strong Spearman association between ERP utilization and communication effectiveness ($\rho \approx 0.68$) indicates that ERP is already embedded in core decision processes.
- Early majority. Keluarga Bahari (Silver/Gold) and Kharisma Bahari (A – Regular/Great). These networks deploy dashboards and semi-integrated systems but still maintain hybrid coordination through WhatsApp. Quantitatively, they contribute to the moderate ERP-coordination relationship ($\rho \approx 0.61$), indicating partial but not full institutionalization.
- Late majority / transitional users. Karunia Bahari and entry-level Economy packages. ERP here functions mainly as a communication aid rather than an integrated control system. The moderate correlation with digital readiness ($\rho \approx 0.55$) suggests that human capability constraints remain the primary bottleneck.

This stratification demonstrates that ERP diffusion in MSME franchise ecosystems is economically stratified rather than purely technologically driven, extending Rogers' model into the franchise investment context.

Digital Readiness as Change Management Capacity

The study's Digital Readiness construct empirically operationalizes Kotter's change readiness principles at the MSME level. Clusters with higher readiness scores display:

- faster transition from manual to automated reporting
- fewer workarounds during system downtime
- greater reliance on dashboards over chat-based confirmation

Conversely, lower-readiness outlets continue to exhibit behavioral inertia, where staff revert to manual notes despite system availability. This finding reinforces Kotter's

argument that technological change fails without parallel cultural and capability transformation. Importantly, the moderate correlation ($\rho \approx 0.55$) indicates that readiness is necessary but not sufficient. Some outlets with adequate literacy still underutilize ERP due to cost-tier limitations in their franchise package. This nuance adds theoretical refinement: in MSME franchises, change capacity is jointly constrained by human readiness and structural investment ceilings.

ERP as a Communication Platform (Synthesis Subsection)

a) Vertical Communication

Across early-adopter clusters, ERP functions as a real-time supervisory medium. Dashboard visibility replaces end-of-day recap culture, compressing reporting latency and enabling proactive intervention. This supports Davenport's view of ERP as an integrative information backbone, but the present study extends it by demonstrating communication restructuring at the micro-franchise level. In early-majority clusters, vertical communication becomes semi-synchronized: data are visible, but managerial follow-up still relies on WhatsApp confirmation. This hybrid mode explains why communication effectiveness improves but does not reach full automation. Late-majority clusters show message-driven vertical control, where ERP supports but does not govern communication. Here, WhatsApp remains the dominant coordination channel.

b) Horizontal Coordination

ERP maturity also reshapes peer coordination: a) Early adopters: data-mediated stock balancing across outlets; b) Early majority: mixed dashboard plus group chat coordination; c) Late majority: predominantly conversational coordination. This gradient demonstrates that ERP progressively transforms the network from social coordination → informational coordination → algorithmic coordination.

c) Strategic Implication

The evidence confirms that ERP in Warteg franchises is not merely an accounting tool but a distributed communication infrastructure that restructures authority visibility, response speed, and inter-outlet coupling.

Cost Tier and ERP Sophistication: A Novel Contribution

One of the most significant contributions of this study is the discovery of a systematic linkage between franchise package level and communication-oriented ERP sophistication. Prior MSME ERP research generally treats adoption as a binary (adopt vs. not adopt). However, this study demonstrates a tiered technological stratification: a) Lower-tier packages → transactional POS focus; b) Mid-tier packages → dashboard transparency; c) Upper-tier packages → predictive and AI-enabled coordination.

This pattern indicates that in franchise-based MSMEs, ERP capability is commercially bundled, not independently chosen by outlets. Consequently, communication capacity becomes partially predetermined by the franchise investment tier. This finding extends both: a) ERP implementation theory (which often assumes firm-level autonomy), and b) MSME digitalization literature (which rarely examines franchise package economics).

Reinterpreting ERP Benefits Beyond Efficiency

While classical ERP literature emphasizes efficiency gains (Poston & Grabski), the present findings suggest a broader organizational impact in micro-franchise settings. Empirically, the strongest observable effects are: a)

compression of reporting cycles; b) increased cross-outlet visibility; c) earlier managerial intervention; d) gradual shift toward data-driven coordination. Thus, in the Warteg ecosystem, ERP's primary transformation is communicative before it is purely operational. Efficiency improvements appear as downstream consequences of improved informational alignment. This reframing contributes to organizational communication scholarship by positioning ERP as a communication architecture embedded in MSME franchise governance.

Remaining Structural Constraints

Despite positive correlations, full digital integration remains uneven. Three structural frictions persist: a) investment-tier limitations; b) uneven digital literacy; c) partial dependence on messaging platforms

These constraints explain why the ERP–coordination relationship, while strong, has not reached near-deterministic levels.

Theoretical Contribution (Explicit Statement)

This study advances the literature in four key ways: a) It empirically maps ERP diffusion stages within MSME franchise ecosystems rather than treating adoption as binary; b) It demonstrates that digital readiness operationalizes change management capacity at the outlet level; c) It reconceptualizes ERP as a communication platform that restructures vertical and horizontal coordination; d) It uncovers a novel structural mechanism: franchise investment tier systematically shapes communication-oriented ERP sophistication. Together, these findings refine existing ERP and MSME digital transformation theories by embedding them within the economic and governance realities of franchise-based culinary microenterprises.

Conclusion

The empirical findings confirm that ERP utilization is strongly associated with communication effectiveness and operational coordination within the Warung Tegal franchise network. The reliability analysis demonstrates robust measurement quality, with Cronbach's Alpha values exceeding 0.80 for all constructs, indicating high internal consistency and strengthening confidence in the observed relationships. Substantively, ERP functions not merely as a technical reporting tool but as an integrative communication infrastructure that enhances the clarity, speed, and accuracy of information flows across franchise clusters and outlets. The results further highlight that digital readiness plays a facilitating role; higher levels of user literacy, adaptability, and training adequacy significantly support the effectiveness of ERP-enabled communication. These findings reinforce the argument that successful ERP implementation in micro-franchise environments is socio-technical in nature, requiring alignment between system capability and human competence.

Rekomendation

For franchise management, ERP adoption should not be viewed merely as an operational tool, but as a strategic investment that strengthens communication effectiveness and organizational coordination. Franchise managers are encouraged to institutionalize ERP as the primary source of information by implementing standardized reporting systems, communication procedures based on ERP

workflows, and periodic communication audits utilizing system-generated data. In addition, the development of an ERP Communication Dashboard can improve real-time monitoring, transparency, and decision-making quality across franchise clusters, thereby enhancing communication consistency and operational responsiveness.

For system developers and IT teams, improving system usability is essential to ensure successful ERP implementation among franchise operators with diverse levels of digital literacy. Developers are encouraged to design more user-friendly interfaces, integrate contextual notification features, and connect ERP systems with widely used communication platforms such as WhatsApp to facilitate accessibility and faster information exchange. Furthermore, embedding lightweight microlearning modules within the ERP environment can support continuous learning and help users adapt more effectively to system features without disrupting daily operational activities.

For policymakers and MSME support institutions, the findings highlight the need for broader ecosystem support to strengthen digital readiness among franchise-based MSMEs. Policymakers are encouraged to provide training subsidies, standardized ERP frameworks tailored for micro-franchise businesses, and collaborative digital capacity-building programs that improve both technological competence and communication capabilities. In this regard, policy interventions should not focus solely on digital infrastructure development, but also prioritize long-term capability-building initiatives that enable MSMEs to adopt ERP systems effectively and sustain organizational communication performance in increasingly digital business environments.

Limitations and Future Research

This study is subject to several limitations. The sample is restricted to seven clusters within a single Warteg franchise network, which limits generalizability across broader MSME or franchise contexts. The use of non-probability sampling and relatively homogeneous digital literacy levels may also constrain data variability. In addition, the current model does not incorporate organizational variables such as leadership style, communication climate, or organizational culture, leaving important explanatory pathways underexplored.

Future research should expand the analytical framework by integrating constructs from the Technology Acceptance Model (TAM) and organizational communication climate to capture more complex adoption dynamics. Broader cross-sector sampling among franchise and supply-chain-oriented SMEs is recommended to test model stability. Mixed-method designs incorporating in-depth interviews would provide richer insight into user adaptation and communication barriers. Subsequent studies may also examine mediation or moderation effects, particularly the role of digital readiness, using SEM approaches to deepen theoretical and practical understanding of ERP-driven

organizational transformation.

Author contributions

The authors contributed collaboratively to this research through distinct but complementary roles. Noviana Tursanurohmad was responsible for conceptualization, primary data collection through interviews and observations, qualitative analysis, and preparation of the original manuscript draft. Burhan Bungin contributed to the methodological design, development of the research paradigm framework, and supervision of the thematic coding process.

Made Wilantara conducted the quantitative data analysis using Spearman Rank Correlation, performed reliability testing through Cronbach's Alpha, and interpreted the integrated mixed methods findings. Meanwhile, Misnan contributed to the synthesis of the literature review, refinement of the manuscript, and formulation of strategic recommendations related to MSME policy development.

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Conflict of interest

The authors declare that there are no known conflicts of interest, either financial or personal, that could have influenced the work reported in this article. This research was conducted independently of the Warung Tegal Bahari franchise management, ensuring objectivity.

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