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Digital Transformation in Cassava Chips Product Marketing: A Case Study of MSMEs in Deli Serdang Regency

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Abstract

The growth of digital commerce and changing consumer behavior have increased pressure on traditional food-based Micro, Small, and Medium Enterprises (MSMEs) to adapt their marketing practices. However, evidence on how digital marketing transformation develops at the firm level remains limited, particularly in semi-urban and rural contexts. This study examines how cassava chips MSMEs in Deli Serdang Regency implement digital marketing, perceive its marketing-related outcomes, and experience the constraints and support mechanisms shaping the transformation process. A qualitative multiple-case study was conducted involving four cassava chips MSMEs, one local government officer, and one digital marketing facilitator. Data were collected through in-depth interviews, non-participant observations, and document analysis, and were analyzed using reflexive thematic analysis. The findings show that MSMEs use social media, online marketplaces, WhatsApp Business, and basic visual content to support promotion, customer communication, and transactions. These practices were associated with perceived improvements in market reach, customer responsiveness, and brand visibility. Nevertheless, adoption remained fragmented, operational, and weakly integrated with strategic marketing planning. Limited digital literacy, human resources, time, infrastructure, and follow-up support constrained capability development. This study concludes that digital marketing transformation among traditional food MSMEs is an iterative capability-building process rather than merely technology adoption. Sustainable transformation therefore requires long-term mentoring, simplified strategic guidance, and coordinated institutional support that align digital tools with business objectives.

KEYWORDS

digital marketing transformation, marketing performance, msme, cassava chips, local food product.

Introduction

The rapid advancement and diffusion of digital technologies have fundamentally transformed the way firms interact with markets, customers, and value networks (Matarazzo et al., 2021). Digital transformation is no longer perceived merely as a technological upgrade but has evolved into a strategic reconfiguration of business models, organizational capabilities, and marketing practices (Priyono et al., 2020; Ritter & Pedersen, 2020; Verhoef et al., 2021; Vial, 2019). In the marketing domain, digital platforms such as social media, e-marketplaces, and mobile applications enable firms to engage in real-time interaction, personalize offerings, and establish long-term relationships with customers beyond geographical boundaries (Chaffey & Ellis-Chadwick, 2022; Kotler et al., 2021; Wang & Kim, 2017). While large corporations have leveraged these technologies extensively, the implications of digital transformation are particularly significant for Micro, Small, and Medium Enterprises (MSMEs), especially in emerging economies where resource constraints remain prevalent (Chatterjee & Kar, 2020; OECD, 2021; Papadopoulos et al., 2020).

For MSMEs, digital marketing offers the potential to reduce entry barriers, enhance -

market visibility, and compete with larger firms through differentiation and relationship based strategies rather than scale alone (Kraus et al., 2019, 2022; Taiminen & Karjalainen, 2015).

Digital tools allow MSMEs to communicate directly with consumers, co-create value, and build brand narratives that resonate with local identity and authenticity, attributes especially relevant for traditional food-based enterprises. Despite these opportunities, the ability of MSMEs to effectively adopt and integrate digital marketing varies considerably. Many small firms remain in a partial or superficial adoption stage, using digital tools tactically rather than strategically. In this study, strategic integration refers to the coordinated use of digital marketing tools through basic audience targeting, consistent visual and message branding, planned posting routines, simple use of engagement indicators or platform analytics, and alignment across channels such as social media, messaging applications, and online marketplaces. When these elements are absent, digital tools tend to be used only for ad hoc promotion or transactional communication, thereby limiting their perceived marketing value. Specifically, the study aims to examine how cassava chips MSMEs in Kabupaten Deli Serdang implement digital marketing practices, how they perceive the implications of these practices for marketing-related outcomes, and what constraints and support mechanisms shape their digital transformation journey. How do digital marketing capabilities, constraints, and institutional support mechanisms interact in shaping the perceived marketing-related outcomes of cassava chips MSMEs?

In Indonesia, MSMEs constitute the backbone of the national economy, contributing significantly to employment generation, income distribution, and regional economic resilience. Traditional food MSMEs, in particular, play a crucial role in preserving local culinary heritage while supporting household-based economic activities. Nevertheless, numerous studies have highlighted persistent structural challenges faced by Indonesian MSMEs, including limited access to markets, weak branding capabilities, heavy dependence on offline sales channels, and low levels of strategic marketing planning (Eller et al., 2020; Manurung, 2022; Widodo, 2019). These challenges are further exacerbated by uneven digital literacy and infrastructural disparities between urban and rural areas.

The COVID-19 pandemic served as a critical turning point, exposing the vulnerability of MSMEs that lacked digital marketing capabilities while simultaneously accelerating digital adoption among others. Evidence suggests that MSMEs with an established online presence and digital engagement were more resilient during the crisis, whereas those relying solely on conventional marketing channels experienced significant revenue declines (Manurung, 2022; OECD, 2020). Despite this acceleration, digital adoption among MSMEs has often been reactive, fragmented, and driven by short-term survival motives rather than long-term strategic orientation. As a result, many MSMEs struggle to convert digital presence into sustainable marketing performance and competitive advantage.

Existing MSME digitalization studies have generated important evidence on the association between digital adoption and business outcomes, including sales, productivity, and market expansion. However, three gaps remain. First, prior studies have paid limited attention to the process through which digital marketing capabilities are gradually built within MSMEs through experimentation, learning, and adjustment. Second, the role of institutional support—including local government programs, training, mentoring, and platform-based support—has often been treated as a background condition rather than as an active influence on adoption trajectories (Widodo, Suhendi, et al., 2024). Third, qualitative evidence remains limited for traditional food MSMEs operating in semi-urban and rural contexts, where digital transformation is embedded in household-based production, local market

culture, and uneven infrastructure. This study addresses these gaps by examining digital marketing transformation as a context-specific capability-building process shaped by both internal constraints and institutional support.

Addressing this gap requires a theoretical perspective that conceptualizes digital transformation not merely as technology adoption but as a capability-building process embedded within organizational and institutional contexts. This study adopts an integrated theoretical framework combining the Resource-Based View (RBV) and relationship marketing theory. From the RBV perspective, digital marketing capabilities such as content creation, online customer engagement, data-driven promotion, and digital branding can be understood as firm-specific, intangible resources that are valuable, rare, and difficult to imitate when effectively aligned with MSME characteristics (Barney, 1991; Teece, 2018). Recent extensions of RBV emphasize dynamic capabilities, highlighting the importance of sensing, seizing, and transforming digital opportunities in rapidly changing markets (Teece, 2007; Warner & Wäger, 2019).

Relationship marketing theory further complements this view by explaining how digital platforms facilitate continuous interaction, trust-building, and emotional attachment between firms and customers (Grönroos, 1994; Morgan & Hunt, 1994). For traditional food MSMEs, where authenticity, product story, and personal relationships are central to value creation, digital channels offer a powerful means to extend relational bonds beyond local markets. Social media, in particular, enables MSMEs to humanize their brands, engage customers through storytelling, and foster loyalty in niche segments that value local and artisanal products (Hollebeek et al., 2014).

Kabupaten Deli Serdang represents a relevant and underexplored empirical setting to examine these dynamics. Cassava chips MSMEs in this region are predominantly household-based, relying on traditional production methods and local raw materials. While deeply embedded in local food culture, these enterprises face increasing competition from mass-produced snacks, modern retail brands, and imported products. Digital marketing through social media promotion, online marketplaces, and digital brand communication presents an opportunity to overcome geographical limitations, enhance brand visibility, and access broader consumer segments. However, preliminary observations suggest that digital adoption among these MSMEs varies widely, reflecting differences in digital literacy, resource availability, entrepreneurial orientation, and access to institutional support (Cenamor et al., 2019; Li et al., 2018).

Against this background, this study seeks to develop a process-oriented and context-specific understanding of digital marketing transformation among traditional food-based MSMEs. Specifically, the study aims to examine how cassava chips MSMEs in Kabupaten Deli Serdang implement digital marketing practices, how they perceive the implications of these practices for marketing performance and competitiveness, and what constraints and support mechanisms shape their digital transformation journey. Accordingly, this research is guided by the following question: How do digital marketing capabilities, constraints, and institutional support mechanisms interact in shaping the perceived marketing performance and competitiveness of cassava chips MSMEs? (Kannan & Li, 2017)

By addressing this question, the study contributes to the digital marketing and MSME literature in several ways. First, it moves beyond outcome-focused analyses by emphasizing digital transformation as a capability-driven and relational process. Second, it enriches the empirical understanding of digital marketing adoption within traditional food MSMEs in an emerging economy context. Third, it provides insights for policymakers and development agencies on how institutional support can be designed to foster meaningful and sustainable digital transformation among MSMEs.

Methods

Research Design and Approach

This study employs a qualitative research approach using a multiple-case study design (Creswell & Poth, 2018; Eisenhardt, 1989; Yin, 2018). The qualitative case study method was chosen to explore how digital marketing transformation is implemented, experienced, and interpreted by traditional food-based MSMEs within their real-life organizational and institutional contexts. This approach is particularly suitable because the study seeks to understand the how and why of digital marketing capabilities, constraints, and support mechanisms, rather than measuring causal relationships or testing hypotheses statistically. By focusing on process, meaning, and context, the qualitative case study design allows for an in-depth exploration of variations in digital marketing adoption among MSMEs operating within the same regional environment.

Population and Informants

The population of this study comprised traditional cassava chips MSMEs operating in Kabupaten Deli Serdang, Indonesia, along with key institutional actors involved in MSME digitalization initiatives. Informants were selected using purposive sampling to ensure relevance and depth of information. The inclusion criteria required informants to: (1) be directly involved in cassava chips MSME operations, digital marketing facilitation, or MSME-related policymaking; (2) have a minimum of one year of experience related to MSME management, facilitation, or program implementation; and (3) be able to provide reflective insights into digital marketing adoption, perceived outcomes, challenges, and institutional support mechanisms.

Three categories of informants were included to capture diverse perspectives: (1) cassava chips MSME owners representing varying levels of digital marketing adoption (non-adopters, low adopters, and active adopters); (2) local government officials from the Deli Serdang Cooperatives and MSMEs Office responsible for MSME development programs; and (3) digital marketing facilitators involved in MSME training and mentoring activities. The adequacy of the sample was assessed in terms of information power, as the study addressed a focused research question, used a clearly defined case context, and drew on informants with direct and relevant experience. The four MSME cases were intentionally selected to reflect heterogeneity in digital marketing adoption, ranging from offline-only practices to more active use of social media, WhatsApp Business, and online marketplaces. This variation increased the analytical value of cross-case comparison. In addition, two contextual informants a local government officer and a digital marketing facilitator were included to enrich understanding of institutional support mechanisms surrounding MSME digitalization. Sample adequacy was further strengthened through triangulation across three data sources: in-depth interviews, non-participant observations of digital platforms, and document analysis. Taken together, these features provided sufficient depth and variation to address the study's process-oriented research aims.

This study adopts a multiple-case study design in which each cassava chips MSME is treated as a distinct case. The unit of analysis is the MSME-level digital marketing adoption journey. Accordingly, the four MSME owners constitute the core cases for cross-case comparison. The local government officer and digital marketing facilitator are included as contextual informants, not as separate cases, because their role is to provide insight into the policy, training, and support environment that shapes MSME digital marketing transformation.

Research Location

The research was conducted in Kabupaten Deli Serdang, North Sumatra, Indonesia. This region was selected due to its high concentration of household-based cassava chips MSMEs

and the presence of local government initiatives aimed at promoting MSME digitalization (Widodo, Waruwu, et al., 2024). Data collection took place at MSME home-based production sites and in online environments where MSMEs conduct digital marketing activities, including social media platforms such as Instagram and Facebook, as well as online marketplaces such as Shopee and Tokopedia (Alalwan et al., 2017). This setting provided a relevant context for examining digital marketing transformation within traditional food MSMEs operating in a semi-urban and rural environment (Dwivedi et al., 2021).

Data Collection Procedures

Data were collected over a defined research period using three complementary techniques:

1. **Semi-Structured In-Depth Interviews:** Interviews were conducted with each informant. The interviews lasted approximately 45–75 minutes, were conducted in Bahasa Indonesia, and took place either face-to-face at MSME locations or through online communication platforms. With participants' informed consent, all interviews were audio-recorded and transcribed verbatim. The interview guide was designed to explore informants' experiences with digital marketing transformation, including the digital platforms used, perceived changes in market reach and customer interaction, barriers to adoption, and the role of government and facilitators in supporting MSME digitalization (Malterud et al., 2016).
2. **Non-Participant Observations:** Observations were conducted on MSME digital platforms to examine visible digital marketing activities, such as product presentation, interaction with customers, and frequency of content updates. Field notes were recorded systematically and anonymized to protect the digital identities of MSMEs. This allowed for the triangulation of interview data with observable behaviors.
3. **Document Analysis:** Relevant policy and program documents related to MSME development and digitalization were analyzed. This included MSME development reports, local government policy documents, training modules, and publicly available digital marketing guidelines. Document analysis provided additional context and helped validate interview and observation data.

Data Analysis

Data analysis followed a reflexive thematic analysis approach (Braun & Clarke, 2006, 2019; Nowell et al., 2017). The analysis began with familiarization with interview transcripts, observation notes, and documents, followed by initial open coding to identify meaningful units of data. A codebook was developed to define codes, inclusion and exclusion criteria, and illustrative examples. Related codes were grouped into candidate themes, which were subsequently reviewed and refined to ensure coherence and alignment with the research questions. Themes were interpreted through the theoretical lenses of the Resource-Based View (RBV) and relationship marketing theory to explain how digital marketing transformation unfolds as a capability-building and relational process.

Analytic rigor was enhanced through iterative comparison across cases and data sources, as well as continuous engagement with the theoretical framework rather than reliance on code frequency. This allowed for a deeper understanding of the processes underlying digital marketing transformation within MSMEs.

Ethical Considerations

Ethical approval was obtained prior to data collection. All participants were informed about the purpose of the study and provided written or verbal informed consent. Participants were assured of confidentiality, anonymity, and their right to withdraw from the study at any time. Pseudonyms were used in all transcripts and reports. For online observations, only publicly

accessible content was analyzed, and no screenshots were reproduced. All MSME digital identities were anonymized to prevent traceability, ensuring that no identifiable data was shared or used without consent.

Justification for Sample Size and Adequacy

The sample size of six informants was deemed sufficient for qualitative research of this nature, given the complexity of the research questions and the context-specific focus. The use of purposive sampling ensured that the informants represented varying levels of digital marketing adoption, offering a comprehensive view of the digital marketing transformation process within the MSME context. Additionally, thematic saturation was reached during the interviews, where no new significant themes emerged, indicating that the sample size was adequate to address the research questions. The findings were further strengthened by the triangulation of data sources (interviews, observations, and documents), which helped validate the interpretations and enhanced the credibility of the results.

Result and Discussion

Profile of Informants and Digital Adoption Variation

This study involved six key informants, including four MSME owners, one local government official, and one digital marketing facilitator (see [Table 1](#)). The MSME owners demonstrated varying levels of digital marketing adoption: some had not adopted any digital tools, others used basic platforms such as WhatsApp, and a few had integrated multiple digital tools, including social media and online marketplaces. The inclusion of diverse informants allowed for cross-case comparisons, capturing a range of digital marketing practices and the factors influencing adoption ([Ainin et al., 2015](#)).

The adoption of digital marketing tools across MSMEs was not uniform, even within the same geographical area ([Rahayu & Day, 2017](#); [Trinugroho et al., 2022](#)). While all MSMEs in this study were based in Deli Serdang, the variation in adoption was influenced not only by external environmental factors but also by individual owner capabilities, access to digital training, and perceptions of digital marketing's strategic value. These findings suggest that digital transformation

among traditional food MSMEs is shaped by a combination of personal readiness, resource availability, and perceived business value.

Forms of Digital Marketing Implementation

The study identified four main forms of digital marketing implementation among the MSMEs ([table 2](#)):

- Social Media Promotion:** Primarily through Facebook and Instagram, these platforms were used to upload product photos, post prices, and respond to customer inquiries. However, the use was often irregular, without a content calendar, audience segmentation, or cohesive branding strategy. Most MSME owners did not track engagement metrics such as reach or impressions.
- Online Marketplace Participation:** Platforms like Shopee and Tokopedia were used mainly for transactional purposes, such as order fulfillment and delivery management. Product descriptions were minimal, and efforts to differentiate products through storytelling or customer reviews were lacking.
- Business Messaging Applications:** WhatsApp Business was widely adopted for customer communication and order confirmation. While it facilitated faster response times, more advanced features (e.g., automated replies, catalog optimization) were underutilized.
- Visual Content Production:** MSMEs engaged in basic visual content production, relying on smartphone photography. However, the quality of visual content was often not aligned with branding consistency or professional standards.

Perceived Marketing-Related Changes

Perceived marketing-related changes varied across adoption levels. The non-adopter case reported little change in market reach because sales continued to depend primarily on local offline buyers. In contrast, low and moderate adopters described modest improvements in customer responsiveness and product visibility, especially through WhatsApp and social media exposure. The active adopter reported the broadest perceived benefits, particularly in terms of inquiries from outside the immediate locality and more frequent small-batch online orders ([Odoom et al., 2017](#)).

As one moderate adopter explained, "After we started

Table 1. Profile of Research Informants

Informant Code	Role / Position	Type of Organization	Years of Experience	Level of Digital Marketing Adoption
1	MSME Owner	Cassava chips MSME	8 years	Non-adopter (offline sales only)
2	MSME Owner	Cassava chips MSME	10 years	Low adopter (WhatsApp only)
3	MSME Owner	Cassava chips MSME	6 years	Moderate adopter (social media + WhatsApp)
4	MSME Owner	Cassava chips MSME	12 years	Active adopter (social media + marketplace + WhatsApp)
5	Local Government Officer	MSME Development Unit	7 years	Institutional support provider
6	Digital Marketing Facilitator	Training & mentoring organization	5 years	External digital support facilitator

Table 2. Forms of Digital Marketing Implementation in MSMEs

Digital Marketing Form	Platforms / Tools Used	Main Purpose	Level of Strategic Integration
Social media promotion	Facebook, Instagram	Upload product photos, respond to inquiries	Low (irregular posting, no planning)
Online marketplace participation	Shopee, Tokopedia	Order fulfillment, transaction handling	Low-moderate (transactional focus)
Business messaging applications	WhatsApp Business	Customer communication, order confirmation	Moderate (operational efficiency)
Visual content production	Smartphone photography	Product display and promotion	Low (no branding consistency)

posting more regularly on Facebook and WhatsApp Status, more people asked about the product, even from outside the sub-district." Another active adopter noted, "Orders from online platforms are not always large, but they help introduce the product to new customers."

These accounts suggest that perceived improvements were not uniform across cases. Rather, they became more visible as digital practices moved from minimal or fragmented use toward more sustained and coordinated use.

Despite the fragmented nature of adoption, MSME owners reported perceived marketing-related changes in several areas (table 3):

- Market Reach:** Informants noted an increase in customer inquiries from outside their immediate locality, reflecting the broader geographic reach enabled by digital platforms.
- Sales Activity:** Many MSMEs observed an increase in small-batch orders, particularly through online marketplaces, though these orders were typically irregular and modest in volume.
- Brand Visibility:** Several owners mentioned that customers recognized their products through prior social media exposure, even if the actual purchase occurred offline.
- Customer Relations:** Faster response times and improved communication via WhatsApp Business were cited as key benefits, enhancing customer trust and facilitating more efficient negotiations.

However, these perceived improvements were not corroborated by objective sales or profitability data. MSMEs did not systematically track sales performance or utilize platform analytics to measure the true impact of digital marketing on business outcomes. The findings thus point to an early-stage transformation characterized by experiential learning rather than data-driven decision-making.

These findings should be interpreted as owner-reported perceptions and observational indications rather than as verified improvements in sales, profitability, or broader business performance.

Barriers to Digital Marketing Adoption

Several barriers to effective digital marketing adoption were identified across informant groups (table 4):

- Internal Capabilities:** Limited digital literacy, especially in content creation, platform utilization, and performance evaluation, was frequently cited by MSME owners. Many struggled to determine what content to post or how to assess the success of their digital activities.
- Human Resources:** As household-based businesses, MSME owners often had to juggle multiple roles, leading to significant time constraints and inconsistent engagement with digital platforms.
- Strategic Orientation:** There was a notable absence of structured marketing planning. Digital tools were adopted without clear objectives, target market definitions, or integration with overall business strategies.
- External Constraints:** Inconsistent internet connectivity and the perceived high costs of digital marketing further hindered MSMEs' ability to effectively leverage digital platforms. Moreover, MSMEs often lacked access to affordable promotional features or advanced digital tools.

These barriers highlight the complex interplay between individual capabilities, organizational readiness, and external constraints, suggesting that addressing these factors is crucial to achieving meaningful digital transformation.

Conceptual Diagram of Research Results

Based on the findings discussed in the previous sections – informant profiles, forms of digital marketing implementation, perceived marketing outcomes, and barriers to adoption – a

conceptual diagram was developed to synthesize the overall pattern of digital marketing transformation among cassava chips MSMEs, as presented in Figure 1.

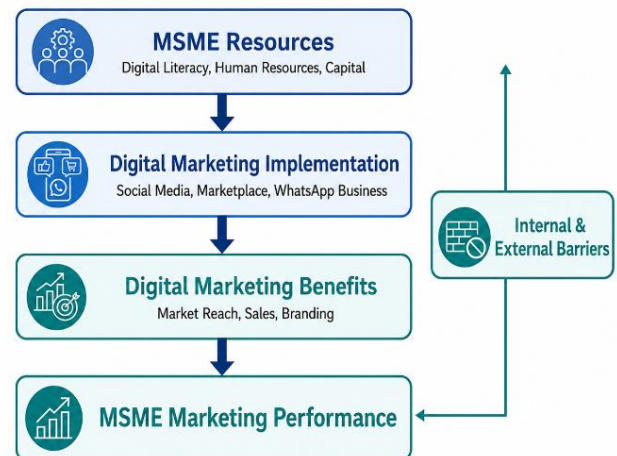


Figure 1. Conceptual Synthesis of Digital Marketing Transformation among Cassava Chips MSMEs

Note: This diagram presents a conceptual synthesis derived from thematic analysis of interview, observation, and document data. It illustrates perceived relationships among resources, digital marketing practices, barriers, and marketing-related outcomes, and should not be interpreted as a verified causal chain.

Table 3. Perceived Marketing-Related Outcomes Reported by MSMEs

Marketing Aspect	Perceived Qualitative Indicators	Illustrative Interpretation (non-verified)
Market reach	Customer inquiries from outside the sub-district	Expanded geographic exposure
Sales activity	Increased frequency of small-batch online orders	Emergence of new sales channels
Brand visibility	Customers recognize products from social media	Early-stage brand awareness
Customer relations	Faster response cycles via WhatsApp Business	Improved communication efficiency

Table 4. Barriers to Digital Marketing Adoption for MSMEs

Barrier Category	Specific Identified Barriers	Source of Evidence
Internal capability	Limited digital literacy, lack of content skills	MSME owners
Human resources	Time constraints, multitasking roles	MSME owners
Strategic orientation	Absence of marketing planning, unclear objectives	Facilitators, government officers
Infrastructure & cost	Internet instability, perceived promotion costs	MSME owners
Knowledge support	Limited follow-up after training	Facilitators

Digital Marketing Transformation as a Capability-Building Process

The findings suggest that digital marketing transformation in cassava chips MSMEs is a process of capability development rather than a mere technological adoption. While MSMEs have access to digital tools, their adoption remains fragmented and largely operational. This aligns with the Resource-Based View (RBV), which posits that digital resources such as social media and online marketplaces only generate a competitive advantage when complemented by strategic capabilities such as content creation, customer engagement, and digital branding. Many MSMEs, however, use digital tools for functional tasks like order management or customer communication, without integrating these tools into a cohesive marketing strategy. As such, digital resources remain underutilized and do not translate into sustained competitive advantage. Moreover, the study extends RBV by incorporating the concept of dynamic capabilities, which emphasizes the ability to sense, seize, and transform opportunities in a rapidly changing digital landscape. In the case of MSMEs, the ability to sense digital marketing opportunities, seize them through strategic integration, and transform business practices accordingly is constrained by limited managerial capabilities, time constraints, and the absence of a structured marketing plan.

Relationship Marketing and Digital Interaction

From a relationship marketing perspective, the findings reveal that digital platforms have indeed altered the interaction patterns between MSMEs and their customers. Messaging applications and social media enabled more frequent, immediate, and flexible communication, reducing response time and facilitating transactional exchanges. However, these interactions remained predominantly functional and transactional, rather than relational. There was limited evidence of deliberate efforts to cultivate trust, emotional attachment, or customer loyalty through structured engagement strategies.

This finding nuances (Grönroos, 1994) relationship marketing framework by illustrating that the relational potential of digital platforms is not automatically realized through increased interaction frequency alone. Instead, relationship-building in digital environments requires managerial intentionality, including consistent brand narratives, personalized communication, and mechanisms for customer feedback and retention. Without such intentionality, digital interactions risk reinforcing short-term transactions rather than fostering long-term relational bonds.

Practical Implications for MSME Development

The findings offer several practical implications for MSME development initiatives:

1. **Focus on Capability Development:** MSMEs should be supported in building core digital marketing capabilities, including content strategy, customer analytics, and digital branding. Training programs should move beyond basic platform usage and help MSMEs align digital tools with business objectives.
2. **Simplified Digital Marketing Strategies:** Given resource constraints, MSMEs would benefit from simplified, template-based marketing strategies. These strategies should include basic guidelines on posting schedules, customer segmentation, and performance tracking to help MSMEs integrate digital marketing into their daily operations.
3. **Institutional Support:** One-off training programs are insufficient for long-term digital transformation. Long-term mentoring and advisory services should be prioritized, with institutional support mechanisms that provide ongoing guidance throughout the digital adoption journey.

4. **Ecosystem-Level Coordination:** Fragmentation among various MSME support actors such as policymakers, facilitators, and academic institutions can lead to overlapping or inconsistent interventions. Collaborative frameworks that integrate training, mentoring, and evaluation efforts would enhance the effectiveness of MSME digitalization programs.

Conclusion

This study highlights the importance of developing digital marketing capabilities within MSMEs, particularly in the context of traditional food enterprises. By emphasizing the capability-building process rather than simply technology adoption, the study contributes to a deeper understanding of how digital transformation unfolds within MSMEs. The practical implications for policymakers and support organizations underline the need for long-term, capability-focused initiatives to help MSMEs overcome barriers and leverage digital marketing for sustainable growth (Putra & Widodo, 2024).

However, the research findings also indicate that the success of digital marketing transformation is not optimal and is heavily influenced by MSMEs' limited internal capacity. Low digital literacy, limited human resources, the absence of structured marketing planning, and technical challenges in digital content management are key obstacles. Furthermore, external factors such as limited internet infrastructure and high competition in the marketplace also limit the effectiveness of MSME digital marketing.

Theoretically, this study enriches the study of MSME marketing management and digital transformation by providing empirical evidence in the context of the locally based traditional food industry. These findings confirm that digital marketing in MSMEs cannot be understood simply as technology adoption, but rather as a strategic process that relies heavily on internal capabilities and external environmental support. Thus, this research reinforces the Resource-Based View and dynamic capability perspectives, which emphasize the importance of resource development and adaptive capabilities in creating competitive advantage for MSMEs.

From a practical and policy perspective, the results of this study provide important implications for local governments, MSME support institutions, and universities in designing more targeted and sustainable digitalization programs. Digital marketing training programs should focus not only on the technical aspects of platform use, but also on strengthening marketing strategies, understanding digital consumer behavior, and integrating online and offline marketing. Continuous, needs-based support for MSMEs is key to ensuring that digital transformation does not stop at the symbolic stage but actually improves business performance (Bouwman et al., 2018, 2019).

This research is limited by its qualitative approach and relatively limited regional coverage, so the findings cannot be broadly generalized. Therefore, further research is recommended to combine quantitative approaches to test the relationship between digital marketing transformation and MSME marketing performance in a more measurable manner, as well as conducting comparative studies between regions or between types of MSME industries to strengthen the external validity and generalizability of the findings.

This study concludes that digital marketing transformation among cassava chips MSMEs in Deli Serdang remains at an early and fragmented stage. Although MSMEs reported perceived improvements in market reach, customer communication, and brand visibility, these outcomes remain constrained by limited digital literacy, weak strategic planning, and uneven institutional support. Based on these findings, three policy implications emerge: the need to strengthen MSME

digital marketing capabilities, the need to provide simplified and operational digital strategy support, and the need to ensure sustained mentoring and coordination across supporting institutions.

Implications

This study has several important implications for both theory and practice in the field of digital marketing transformation for MSMEs, particularly in emerging economies.

1. **Theoretical Implications:** This research advances the theoretical understanding of digital marketing transformation within MSMEs by integrating the Resource-Based View (RBV) and relationship marketing theory. It extends the RBV by incorporating dynamic capabilities, emphasizing the process through which MSMEs develop digital marketing capabilities and leverage them to sustain competitive advantage. The study underscores the need for a capability-driven approach to digital marketing, suggesting that access to digital tools alone is insufficient without the complementary organizational capabilities.
2. **Practical Implications:** The study provides actionable insights for MSME development initiatives. Policymakers and support organizations are encouraged to prioritize long-term capability development for MSMEs, focusing on content strategy, customer engagement, and alignment of digital tools with business objectives. Additionally, it highlights the importance of simplifying digital marketing strategies and offering tailored, needs-based mentoring for MSMEs. Effective institutional support mechanisms and ecosystem-level coordination are crucial for reducing the fragmentation of support efforts and enhancing the overall impact of MSME digitalization programs.

Limitations

Despite its contributions, this study has several limitations:

1. **Context-Specific Findings:** The research is context-specific, focused on cassava chips MSMEs in Deli Serdang, North Sumatra. As a result, the findings may not be directly generalizable to other regions or sectors. Future studies should explore similar transformation processes in different geographical areas or industries to assess the transferability of these results.
2. **Reliance on Perceived Outcomes:** This study primarily relies on perceived marketing-related outcomes, such as increased market reach and improved customer relations, which may not necessarily correlate with objective performance metrics (e.g., sales or profitability). Future research could benefit from incorporating objective measures to validate the perceived benefits reported by MSME owners.
3. **Sample Size:** The study's small sample size (six informants) may limit the depth and generalizability of the findings. While thematic saturation was reached, larger and more diverse samples would strengthen the findings and provide a more comprehensive understanding of

MSME digitalization across various stages of adoption.

4. **Platform-Specific Dynamics:** The study did not systematically examine platform-specific dynamics, such as marketplace algorithms, content visibility rules, or promotional features. Future research could explore how these platform-specific factors influence marketing outcomes independently of MSME effort.

Future Research

Given the limitations of this study, several directions for future research can be identified:

1. **Comparative Studies:** Future research could conduct comparative studies across different regions, industries, or types of MSMEs to explore how digital marketing transformation differs depending on the specific socio-cultural and economic contexts. This would help validate the generalizability of the findings.
2. **Longitudinal Studies:** Longitudinal studies could be conducted to track the evolution of MSME digital marketing capabilities over time and assess the long-term impacts of digital transformation on marketing performance, competitiveness, and organizational sustainability.
3. **Objective Performance Metrics:** Future research should incorporate objective performance data, such as sales records, customer retention rates, or platform analytics, to complement the qualitative perceptions of MSME owners. This would allow for a more comprehensive evaluation of the effectiveness of digital marketing transformation.
4. **Examining External Support Systems:** Further studies could investigate the role of external support systems, including government programs, digital marketing facilitators, and institutional support networks, in facilitating the digital transformation of MSMEs. This could help identify best practices and effective strategies for scaling digital marketing adoption.

Author contributions

The author solely contributed to the conceptualization and design of the study, data collection, data analysis, and interpretation of findings. The author also prepared the original draft of the manuscript, conducted theoretical integration, and revised the manuscript critically for important intellectual content. All stages of the research process, from fieldwork to final manuscript preparation, were carried out by the author.

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