

Digital Transformation in Strategic Management of MSMEs Based on Local Wisdom in Cirebon City: Development of a Sales Application to Empower Upgrading MSMEs

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Abstract: Micro, Small, and Medium Enterprises (MSMEs) are the main drivers of Indonesia's economy, particularly in Cirebon City, which is rich in cultural heritage and local wisdom. However, many MSMEs face obstacles in scaling up due to limited digital adoption, traditional management practices, and restricted market access. This study aims to examine digital transformation in the strategic management of MSMEs through the development of a sales application that integrates elements of local wisdom to strengthen competitiveness and support MSMEs in Cirebon to move up to a higher business level. This research applies a mixed-method approach, combining interviews with MSME actors and stakeholders as qualitative data with digital adoption readiness analysis as quantitative data. The application development follows the System Development Life Cycle (SDLC) framework with a user-centered design to ensure relevance to business needs. Key features include sales reports, supplier data, product data, and sales graphs. The findings show that the application improves operational efficiency and supports data-driven decision-making. Moreover, the integration of cultural identity within the digital platform contributes to the preservation of local wisdom while fostering sustainable business growth. This study highlights that digital transformation, when combined with culture-based strategic management, can serve as a pathway for MSMEs to upgrade their business class while aligning with national economic priorities and global sustainable development goals.

Keywords: Digital Transformation, MSMEs, Local Wisdom, Sales Application, Local Wisdom.

Introduction

Micro, Small, and Medium Enterprises (MSMEs) in Cirebon City play an important role in driving the regional economy, particularly in the trade, culinary, and craft sectors based on local wisdom (Abu et al., 2025). However, the increasingly competitive market dynamics require MSME actors to adapt to digital technology developments in order to remain relevant (Jyoti et al., 2025). Digital transformation is no longer merely an option, but a strategic necessity for MSMEs that aim to "upgrade" and expand their market reach (Sulaeman et al., 2024). Challenges such as low digital literacy, limited access to technology, and suboptimal digital marketing processes have become key urgencies that must be addressed

through a strategic management approach (Wirayanti, 2024).

Amid the wave of globalization, Cirebon's local wisdom from Trusmi batik and traditional culinary delights to handcrafted arts serves as a source of differentiation and uniqueness for MSME products (Jagannarayan & Uma, 2024). However, this potential has not been optimally integrated into digital strategies, resulting in its added value not being fully realized by business actors (Ranta et al., 2021). The integration of digital technology with local wisdom becomes an essential strategy for building product identity, increasing brand awareness, and strengthening the competitiveness of MSMEs in national and global markets (Saari et al., 2025). The need to enhance these aspects encourages research aimed at developing digital

solutions that are contextual and relevant (Chen et al., 2022).

Most MSMEs in Cirebon still rely on conventional sales methods, either through manual record-keeping or simple marketing via social media without an integrated system (Turini et al., 2025). This situation makes it difficult to monitor sales, manage inventory efficiently, and analyze business performance, especially for MSMEs that are in the process of growing (Dewi et al., 2022). Therefore, the presence of a sales application based on digital transformation has become an urgent need to improve operational effectiveness, expand market reach, and provide real-time data to support strategic decision making (Akbari et al., 2025). This research aims to develop a sales application that can support the empowerment of MSMEs in Cirebon City within the context of digital transformation and strategic management based on local wisdom (Lestari et al., 2025).

This research carries academic urgency as it enriches the literature on MSME digital transformation contextualized with local wisdom (Skare & Riberio Soriano, 2021). On the other hand, practical urgency arises from the need of local governments and MSME actors to have an applicable innovation model that can enhance competitiveness (Holopainen et al., 2022). The development of this application is expected to serve as a concrete solution that supports MSME upgrading programs through the digitalization of sales processes, the strengthening of cultural identity, and the improvement of adaptive capabilities toward technological changes (Skare & Riberio Soriano, 2021).

The research employs a Research and Development (R&D) approach using system development models, namely Waterfall or Prototyping, involving MSMEs as direct partners. The research stages include needs analysis through observation and interviews, system design, application development, limited trials, and evaluation of the system's effectiveness in supporting MSME performance. A participatory approach is used to ensure that the application truly aligns with the needs of MSME actors and enhances their capacity to manage their businesses

strategically based on technology and local wisdom.

Materials And Methods

Research Site and Participants

The field study was conducted in Cirebon City, Indonesia, focusing on MSMEs located in the sub-districts of Kesambi, Harjamukti, Lemahwungkuk, and Pekalipan areas recognized as central clusters of local-wisdom based industries. Participants consisted of purposively selected MSME owners who were in the process of scaling up and demonstrated a need for digital sales solutions.

Materials and Data Sources

The study utilized both primary and secondary data. Primary data were obtained through direct observation, semi-structured interviews, and documentation of MSME operational processes. Secondary data included government reports, academic literature on digital transformation in MSMEs, and documents related to Cirebon's cultural assets. Technical materials used for system development included Android Studio, Figma, and MySQL.

Research Method

This study adopts a Research and Development (R&D) approach using the Waterfall system development model, chosen for its structured, linear process suitable for developing a digital sales application.

Research Procedures

The research procedures consist of several stages:

Needs Analysis

- (a) Conducted through field observations and in-depth interviews with MSME owners.
- (b) Data collected include sales workflows, transaction recording methods, inventory management, and challenges in digital marketing.

System Design

- (a) Involves creating system flow diagrams, user interface (UI/UX) designs, and database structures.

- (b) MSME partners were engaged to validate the initial design to ensure alignment with their needs.

Application Development

- (a) The application was built using predefined programming tools and platforms.
- (b) Core features include sales recording, inventory management, automated reports, and the integration of local wisdom elements for branding purposes.

Limited Testing

- (a) The application was tested with selected MSME partners to evaluate usability, effectiveness, and system stability.
- (b) Testing included functional testing, usability evaluation, and performance assessment.

Evaluation and Refinement

- (a) Test results were analyzed to identify system weaknesses.
- (b) Feedback from MSME partners was used to refine and optimize the application.

Data Analysis

The data were analyzed using:

- (a) **Qualitative Analysis**
Applied to interview transcripts, observational notes, and user feedback to identify themes related to MSME needs and user experience.
- (b) **Quantitative Analysis**
Used to evaluate improvements in transaction accuracy, workflow efficiency, and application performance during testing.
- (c) **Technical System Evaluation**
Included assessments of response time, stability, error rates, and task-completion success during functional and usability testing.

Results And Discussion

Results

The research resulted in the development of the 'Cirebon MSME Sales Recording Application', a digital sales recording system designed specifically to support MSMEs in managing daily transactions, inventory, suppliers, and performance monitoring. The application integrates principles of digital

transformation and local wisdom based strategic management to ensure accessibility, user friendliness, and relevance to MSMEs in Cirebon. The system was successfully implemented and tested among selected MSME partners, demonstrating its potential to improve business efficiency and decision-making.

APLIKASI PENCATATAN PENJUALAN UMKM KOTA CIREBON



FORM LOGIN

Silahkan login untuk masuk ke aplikasi!

Figure 1 - Display of the application home page

Figure 1 presents the main interface of the 'Cirebon MSME Sales Recording Application', which serves as the entry point for users when accessing the system. This interface is designed to be simple, intuitive, and user-friendly to accommodate MSME owners who may have limited experience with digital tools.



Figure 2 - Application Dashboard

One of the system's main outputs is the Sales Report, which makes it easier for MSME owners to record, store, and retrieve daily sales transactions. Trials have shown significant improvements in the accuracy and organization of sales data compared

to the previous manual, paper-based recording methods.



Figure 3 - Sales Report

Figure 3 illustrates the Consignment Sales Report generated by the Cirebon MSME Sales Recording Application. This report specifically focuses on monitoring the commission earned from each product sold through the consignment mechanism. The system automatically records the number of products sold, the agreed commission percentage, and the commission earned for each product, making it easier for MSMEs to obtain accurate and transparent financial information. The application also includes a Monthly Sales Chart, designed to visually display sales trends over time. During testing, users reported that the graphical representation made it easier to identify peak sales periods, detect seasonal demand variations, and evaluate the impact of promotional activities.



Figure 4. Monthly Sales Chart

Figure 4 presents the monthly sales chart generated by the Cirebon MSME Sales Recording Application. This chart functions as a visual representation of periodic sales trends, enabling MSME owners to easily analyze patterns of increase or decrease in sales each month. For MSMEs in the process of scaling up, this feature

supports data-driven decision-making, enabling business owners to plan inventory restocking, adjust marketing efforts, and allocate resources more effectively. The visualization component strengthens strategic management practices by transforming raw data into actionable insights.

The application is also capable of generating comprehensive outputs in the form of supplier data and product data. The supplier module allows MSME owners to manage and monitor information related to consignment partners, including supplier identities, product categories supplied, and agreed commission rates. Meanwhile, the product data module provides structured records of all items sold, including product names, pricing details, stock availability, and consignment status. Together, these features support more organized, transparent, and efficient business management, enabling users to make informed decisions based on accurate and up-to-date information.



Figure 5. Supplier Data

The supplier data report (Figure 5) serves to provide structured information regarding consignment suppliers, making it easier for MSMEs to monitor collaboration and commission management.

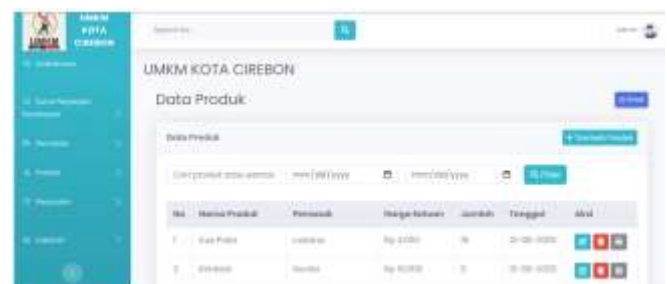


Figure 6. Product Data

Product data reports (Figure 6) are used to monitor the list of items sold, including price, stock, and consignment status, thus helping

MSMEs manage inventory more efficiently (Suwandi et al., 2019).

Discussion

The results demonstrate that the developed application effectively supports the digital transformation process among MSMEs in Cirebon. By integrating key operational features sales recording, inventory management, supplier tracking, and sales analytics the system strengthens MSME capability in managing their businesses strategically. Moreover, the emphasis on local wisdom contributes to the preservation and promotion of Cirebon's cultural identity within modern business processes. This aligns with the broader goal of creating contextually relevant digital innovations that empower MSMEs not only operationally but also culturally and economically.

The findings reinforce the argument that digital transformation, when tailored to local characteristics and user needs, serves as a powerful tool for enhancing MSME competitiveness and supporting their transition toward higher business maturity.

Conflict of Interest: The authors declare that there is no conflict of interest regarding the publication of this paper. All authors have contributed equally to the conception, design, implementation, and review of the study. The research was conducted independently without any commercial or financial relationships that could be construed as a potential conflict of interest.

References

- Abu, N., da Silva, F. P., & Vieira, P. R. (2025). Government support for SMEs in the Fintech Era: Enhancing access to finance, survival, and performance. *Digital Business*, 5(1), 100099. <https://doi.org/10.1016/j.digbus.2024.100099>
- Akbari, S., Suwandi, S., Turini, T., Amroni, A., & Lestari, N. W. F. A. (2025). Developing A Digital Sales Application As A Strategy To Optimize The Financial Performance Of MSMEs. *Journal of Advanced Multidisciplinary Studies*, 1(3), 1–10.
- Chen, C., Zhang, L., Li, Y., Liao, T., Zhao, S., Zheng, Z., Huang, H., & Wu, J. (2022). When Digital Economy Meets Web3.0: Applications and Challenges. *IEEE Open Journal of the Computer Society*, 3(November), 233–245. <https://doi.org/10.1109/OJCS.2022.3217565>
- Dewi, W. N., Sevtiana, A., Suwandi, S., & Julaeha, T. S. (2022). Perancangan Brand Identity Dan Banner Sebagai Media Promosi Bunabee Fashion Untuk Meningkatkan Brand Awareness. *Jurnal Digit: Digital of Information Technology*, 12(1), 54–66.
- Holopainen, M., Ukko, J., & Saunila, M. (2022). Managing the strategic readiness of industrial companies for digital operations. *Digital Business*, 2(2), 100039. <https://doi.org/10.1016/j.digbus.2022.100039>
- Jagannarayan, N., & Uma, R. (2024). Empowering Small Businesses: The MSME Boost in Budget 2025. *Available at SSRN 5370891*.
- Jyoti, J., Dash, G., Rani, A., Kour, S., & Nasser, L. K. (2025). Self-efficacy and women sustainable entrepreneurship in an emerging economy: Role of bricolage and attitude in the era of open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 11(3), 100572. <https://doi.org/10.1016/j.joitmc.2025.100572>
- Lestari, N. W. F. A., Suwandi, S., Turini, T., Akbari, S., Gitama, G. N. D. P., & Akbari, S. (2025). Digitalization Of Women's Entrepreneurship In Cirebon City Through Pos Application Innovation In Supporting Asta Cita. *Journal of Advanced Multidisciplinary Studies*, 1(2), 329–340.
- Ranta, V., Aarikka-Stenroos, L., & Väisänen, J. M. (2021). Digital technologies catalyzing business model innovation for circular economy—Multiple case study. *Resources, Conservation and Recycling*, 164(August 2020), 105155. <https://doi.org/10.1016/j.resconrec.2020.105155>
- Saari, A., Sinclair, S., Leshinsky, R., & Junnila, S. (2025). Best practices for blockchain-driven digital transformation in cross-industry settings. *Digital Business*, 5(2), 100127. <https://doi.org/10.1016/j.digbus.2025.100127>
- Skare, M., & Riberio Soriano, D. (2021). How globalization is changing digital technology adoption: An international perspective. *Journal of Innovation and Knowledge*, 6(4), 222–233. <https://doi.org/10.1016/j.jik.2021.04.001>
- Sulaeman, M. M., Parwati, A. S., Saputra, M. S. A., Pinatih, R., & Abidin, K. (2024). Strategies for Improving the MSME Economy through the Implementation of Technology-Based Business Management. *Technology and Society Perspectives (TACIT)*, 2(2), 218–224.
- Suwandi, S., Wicaksono, F., & Ramadani, T. (2019). Sistem Akuntansi Pencatatan Persediaan Bahan Baku Dengan Metode Rata-Rata Bergerak. *Jurnal Ilmiah Manajemen, Ekonomi, & Akuntansi (MEA)*, 3(2), 58–72.
- Turini, T., Akbari, S., Khodijah, T., Lestari, N. W. F. A., Suwandi, S., Fauzi, F., & Hatta, M. (2025). Integrated Business Guidance for MSMEs in Cirebon City: Customer Satisfaction Strategies, Digital Transformation, Packaging, and Financial Management.

- Wirayanti, L. P. L. K. (2024). Digital Marketing: Penerapan Strategi Pemasaran Digital Melalui Media Sosial Instagram Dalam Meningkatkan Penjualan Produk Kasyaraa. Co. *Manajemen: Jurnal Ekonomi*, 6(2), 282–288.