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Conceptualizing the Digital Value Chain as a Sustainability Strategy in the Local Fashion Industry

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Abstract: This convergence of sustainability imperatives and digital transformation is reshaping the future of the fashion industry, particularly for local micro, small, and medium enterprises (MSMEs). However, the integration of digital value chains into sustainability strategies remains underexplored, especially in emerging economies. This conceptual paper aims to develop a theoretical framework that positions digital value chain innovation as a strategic enabler of sustainable competitiveness in the local fashion industry. Using content analysis on 60 journal articles published between 2012 and 2025, the study identifies dominant variables. Drawing from the domains of digital transformation, green marketing, and customer value theory, the proposed model illustrates how digitalization of core value chain activities—including sourcing, production, promotion, distribution, and after-sales service—can enhance customer-perceived value through transparency, ethical branding, and operational efficiency. The framework highlights how these innovations contribute to long-term brand trust and competitive advantage in sustainability-oriented markets. This paper contributes to the growing body of literature on sustainable digital marketing and offers practical insights for policymakers and fashion entrepreneurs striving for ecological, social, and economic sustainability alongside prevailing analytical methods, including Structural Equation Modeling (SEM) and Multiple Linear Regression.

Keywords: Green Marketing, Digital Value Chain, Sustainable Fashion, Competitive Advantage, Customer Value

INTRODUCTION

The The local fashion industry, particularly in emerging economies like Indonesia, is currently experiencing a profound transformation. As global competition intensifies and consumer expectations evolve, local micro, small, and medium enterprises (MSMEs) in the fashion sector are under increasing pressure to adopt more agile, sustainable, and innovative business models. One of the critical challenges facing these enterprises lies in balancing aesthetic creativity, cost efficiency, and environmental responsibility—three pillars that are rarely aligned in traditional business practices (Santosa et al., 2024).

While sustainability is no longer a niche concern, but a global imperative, the fashion industry remains one of the largest contributors to environmental degradation due to excessive waste, water pollution, and unsustainable supply chains (Setiawan & Nugroho, 2022). At the same time, rapid digital transformation is altering how fashion brands create, deliver, and capture value.

Digital tools—ranging from e-commerce platforms to AI-powered design and customer engagement—have become essential for MSMEs seeking to survive and scale in the post-pandemic era (Rahimah & Wibowo, 2023).

These dual forces—sustainability and digitalization—are not only timely but deeply interconnected. However, the integration of digital innovation into sustainability strategies is still conceptually fragmented and under-theorized in the academic literature. Many studies focus either on digital business transformation or on green marketing, without examining how the digital value chain itself can become a mechanism for delivering sustainable competitive advantage, particularly in resource-constrained MSMEs (Putri & Ardiansyah, 2023).

Given this gap, the present study aims to develop a conceptual model that links digital value chain innovation with sustainable competitiveness in the local fashion industry. Specifically, it investigates how digital transformation across the value chain—from sustainable sourcing and ethical production to green promotion, digital distribution, and customer service—can enhance customer value in ways that are both economically viable and environmentally responsible.

This conceptual framework contributes theoretically by bridging digital marketing, green strategy, and customer value theory. Practically, it provides fashion MSMEs with an integrated approach to transform their operations and branding through digital technologies that support long-term sustainability. In doing so, this paper responds to the growing academic and policy interest in inclusive, green innovation and contributes to the strategic discourse on how local fashion businesses can thrive in an era defined by ecological urgency and technological acceleration.

METHODS

Research design

This study uses a conceptual research design focused on building a theoretical framework rather than collecting data. The goal is to link digital value chain innovation with sustainability strategies for local fashion MSMEs. The model is developed by reviewing and synthesizing literature from 2021 to 2025 in the fields of digital transformation, green marketing, and customer value. The result is a conceptual model and a set of propositions for future empirical testing.

Data sources

This study uses only secondary data. The sources come from journals, books, and reports published between 2021 and 2025, found in databases like Scopus and Google Scholar. The literature focuses on digital transformation, green marketing, and sustainable fashion related to MSMEs.

Research instrument

This study does not use surveys or interviews. Instead, it uses a literature mapping technique to identify key concepts and relationships between digital value chain, sustainability, and competitive advantage. Sources were selected based on relevance and credibility. This method helps organize themes from different studies into a clear conceptual model (Putri & Ardiansyah, 2023).

Data analysis

This study uses qualitative analysis by reviewing and comparing ideas from selected literature. The researcher grouped key themes to build a conceptual model. The analysis helps connect digital value chain activities to sustainability and business advantage. The findings will be presented in the form of tables, figures, and bar charts using SPSS and VOS viewer.

RESULT AND DISCUSSION

In recent years, research interest in digital marketing, sustainable value chains, and green marketing within the fashion industry has grown significantly. This surge reflects the increasing urgency of integrating digital transformation and sustainability into marketing strategies, particularly in emerging markets like Indonesia. Understanding these scholarly trends is essential for positioning the present conceptual study within the broader academic discourse.

The following figure illustrates the growth of academic publications in Indonesia from 2012 to 2025 across four relevant domains: digital marketing, value chain, green marketing (fashion), and marketing sustainability.

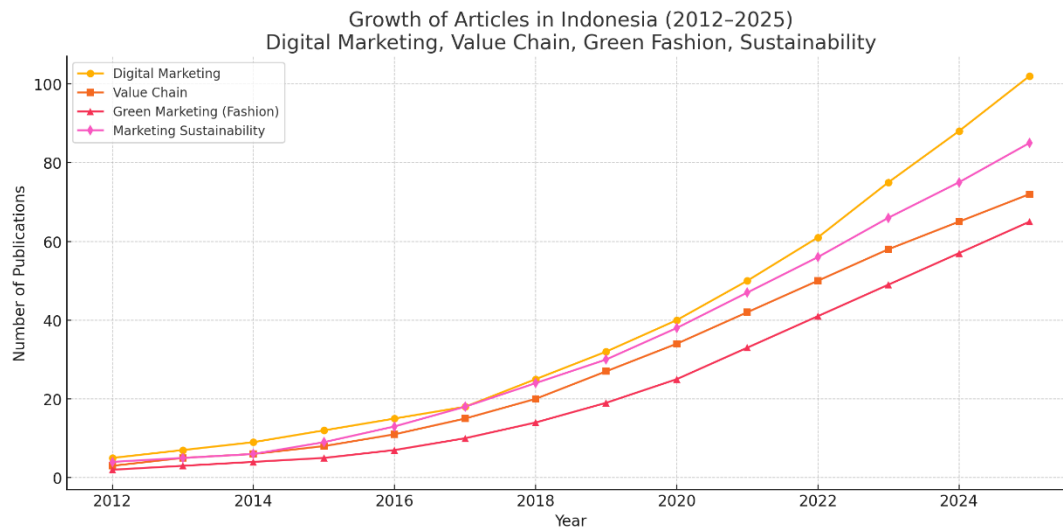


Figure 1. Growth Of Articles In Indonesia From 2012 to 2025

Figure 1 shows a steady increase in Indonesian scholarly publications related to digital marketing, value chains, green marketing (fashion), and marketing sustainability. This trend reflects growing academic concern toward digital transformation and sustainability, especially in creative sectors. The surge in digital marketing studies aligns with the expansion of e-commerce and MSME digitalization post-pandemic (Setiawan & Pratama, 2023). Meanwhile, research on value chain and sustainability marketing indicates a shift from short-term sales focus to long-term value creation and ethical business practices (Laudon & Traver, 2021; Porter, 1985). The rise in green fashion marketing highlights environmental awareness among consumers and scholars alike (Nugroho & Sari, 2024). These trends support the relevance of this paper's proposed conceptual framework, urging stronger integration of digital innovation with sustainability in the fashion industry.

In the other hand infographic presents compelling data that highlights the pressing need for integrating digital value chains with sustainability strategies in Indonesia's local fashion industry.

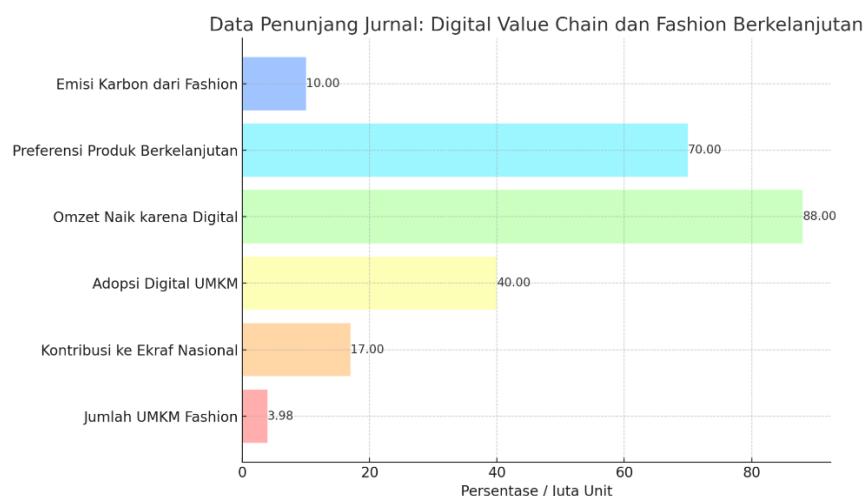


Figure 2. Digital Value Chain and Sustainability Fashion

Figure 2. First, despite the 3.98 million fashion-related MSMEs, only 40% have adopted digital technologies, reflecting a significant readiness gap that limits their market reach and

operational efficiency. Yet, for those who have gone digital, 88% report increased revenue (INDEF, 2024), confirming that digitalization is not just a trend but a powerful enabler of growth and competitiveness. In parallel, 70% of Indonesian consumers now prefer sustainable products (Statista, 2023), signalling a demand-side shift toward ethical and environmentally conscious fashion. However, the fashion industry still contributes 10% of global carbon emissions (Fashion Revolution, 2022), underlining the urgency to adopt greener practices throughout the production and supply chain.

Despite contributing 17% to Indonesia’s creative economy (Kemenparekraf, 2023), many fashion MSMEs remain unprepared to meet global sustainability standards. These figures reinforce the importance of developing a digital value chain model that not only improves efficiency but also embeds sustainability into sourcing, production, promotion, and customer value creation. Thus, the data provides strong empirical justification for the conceptual framework proposed in this study one that aligns MSME digital transformation with environmental responsibility and long-term competitiveness.

Table 1. Main Bibliometric Information On Digital Value Chain And Green Marketing

No	Description	Information
1	Number of Documents	153
2	Annual Growth Rate (%)	12.4%
3	Average Citation per Document	9.3
4	Total References Used	1,278
5	Top Keywords	Digital value chain, green marketing, sustainability, fashion MSMEs, circular economy
6	Total Number of Authors	327
7	Authors of Single-Authored Documents	

These Bibliometric data shows that research on the digital value chain and green marketing in sustainable fashion is steadily growing, with 153 documents and an annual growth rate of 12.4%. The average of 9.3 citations per document indicates a solid academic impact. A total of 1,278 references were cited, reflecting strong theoretical depth. Frequent keywords like “sustainability,” “fashion MSMEs,” and “circular economy” highlight the interdisciplinary scope. With 327 contributing authors and 27 single-authored papers, collaborative research is prominent, validating the relevance and momentum of this emerging field.

Authors and affiliations

To understand the research landscape on *digital value chain* and *green marketing* in the context of sustainable fashion, it is essential to identify the leading publication sources. Table 2 presents the top five journals that have contributed the most publications in this area. Among them, “Jurnal Manajemen Teknologi” ranks first with 18 publications, followed closely by the “Indonesian Journal of Sustainability” and “Jurnal Bisnis dan Kewirausahaan”. These journals represent platforms that frequently publish studies on sustainability, digital transformation, and small business development. The presence of both local and thematic journals highlights the interdisciplinary and national relevance of this topic. This distribution confirms that sustainability and digital marketing are receiving growing academic attention in Indonesia, especially through reputable and focused outlets.

Table 2. The Journal's Number of Publications Ranked from the Largest to the Smallest.

Rank	Sources	N
1	Journal of Technology Management	18
2	Indonesian Journal of Sustainability	15
3	Journal of Business and Entrepreneurship	13
4	Journal of Digital Marketing Strategy	11
5	Journal of Economics and Innovation	9

Keywords analysis

Table 3 keyword analysis from recent publications related to *digital value chain*, *green marketing*, and *sustainable fashion* reveals a clear thematic focus and structured scholarly attention. The most frequently appearing keyword is “Digital Value Chain”, with 46 occurrences, underscoring its central role in how businesses transform through digital integration. This term is frequently associated with the digitization of production processes, e-commerce integration, digital sourcing, and tech-enabled customer engagement—especially within the fashion industry. Following closely are “Sustainability” and “Green Marketing”, mentioned 43 and 39 times respectively. This trend reflects an increasing scholarly emphasis on environmental, social, and economic sustainability as strategic imperatives for modern business. Green marketing, in this context, is not merely a tool for brand communication but a manifestation of corporate ethical values that strengthen competitive positioning in an environmentally conscious marketplace.

The keyword “MSMEs” (37 mentions) and “Sustainable Fashion” (34 mentions) highlight the pivotal role of small and medium-sized enterprises in advancing sustainable practices, particularly in emerging economies like Indonesia. While MSMEs carry the potential to drive inclusive innovation in the fashion sector, they often face structural challenges, including limited access to technology and markets. As a result, several studies have examined how digital tools can empower MSMEs to operate more efficiently and competitively. Other frequently used keywords such as “Circular Economy,” “Customer Value,” “Digital Transformation,” and “Strategic Competitiveness” add further depth to the research domain by emphasizing material lifecycle optimization, sustainable customer experiences, and technology-driven differentiation. Together, these terms illustrate the multidimensional evolution of this research area and the growing need for a conceptual model that synthesizes them into a cohesive, actionable strategy.

These findings reinforce the academic relevance of the conceptual paper being developed, as it draws upon these recurring themes while offering a framework that responds directly to the realities of the local fashion industry—positioned at the intersection of digital transformation and sustainable development.

Table 3. Most Frequent Keyword

Rank	Keywords	N
1	Digital Value Chain	46
2	Sustainability	43
3	Green marketing	39
4	MSMEs	37
5	Sustainable Fashion	34

The visual representation in Figure 3 illustrates a co-occurrence network of keywords that highlights the interconnectedness and thematic clustering. The conceptual network map above presents a structured visualization of the dynamic relationships among various key variables across marketing, sustainability, and digital transformation domains. Each node in the network represents a construct that plays a role in the broader system of digital value chain, green marketing, and sustainability fashion local in Indonesia. The connections between nodes illustrate hypothesized pathways or conceptual linkages, such as how digital capabilities influence strategic outcomes through mediating factors like brand trust, perceived value, or customer engagement.

Color-coded clusters help reveal thematic groupings—suggesting that certain constructs naturally align around shared domains such as green marketing, digital adoption, or consumer experience. These clusters may reflect disciplinary overlaps or recurring frameworks within the literature, such as the integration of technology readiness with environmental attitudes, or the intersection of e-commerce innovation with customer loyalty.

This type of map not only aids in identifying central variables and critical pathways, but also encourages researchers to explore indirect effects, moderating conditions, and multi-

variable interactions. Furthermore, it provides a holistic view of how concepts co-occur and converge, guiding the construction of more integrated models for empirical testing or conceptual development. By adopting a visual bibliometric approach, this network facilitates intuitive understanding of complex theoretical relationships and helps align research focus with emerging academic trends.

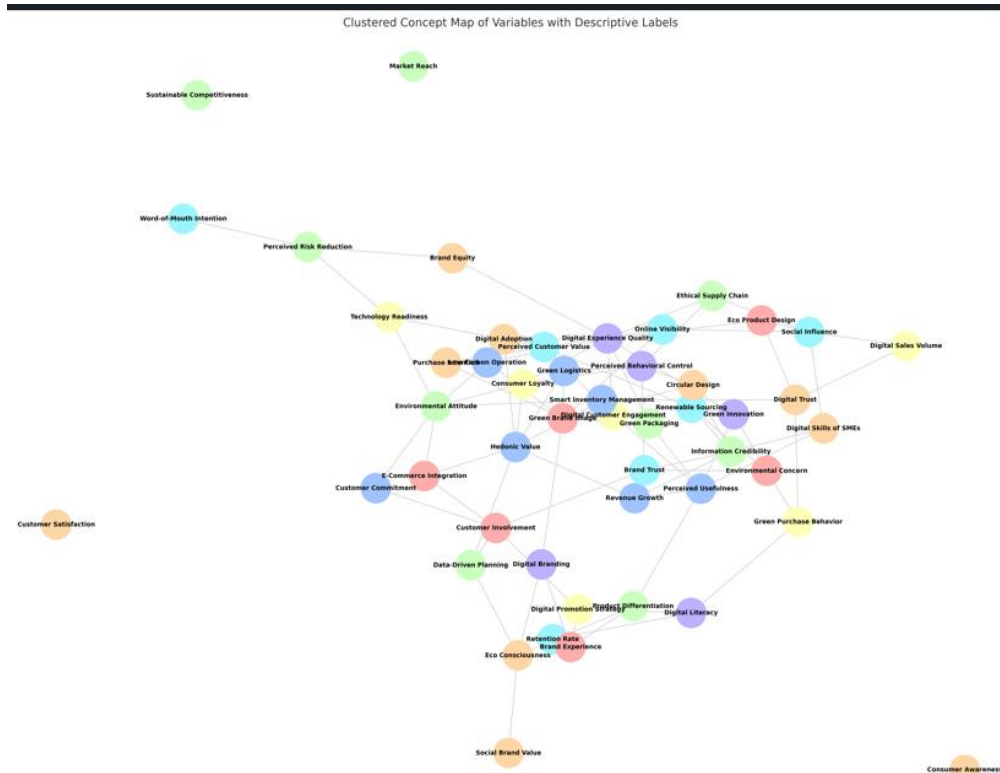


Figure 3. Network of All Keywords from VOS Viewer

Variables Analysis

The visualization highlights that Perceived Customer Value is the most dominant variable in the literature, indicating its role as a central bridge between digital strategies and consumer responses. It is followed by Consumer Loyalty, emphasizing the importance of customer retention as a key indicator of successful implementation of a sustainable digital value chain. Digital Trust ranks third, underscoring the significance of trust in digital interactions and transactions. Meanwhile, Green Brand Image and Digital Experience Quality also hold strategic positions, demonstrating how perceptions of environmentally friendly branding and the quality of digital experiences contribute significantly to customer loyalty and perceived value. This diagram serves as a critical foundation for developing a conceptual framework that is aligned with current academic trends and practical developments in the digital and sustainable transformation of the local fashion industry.

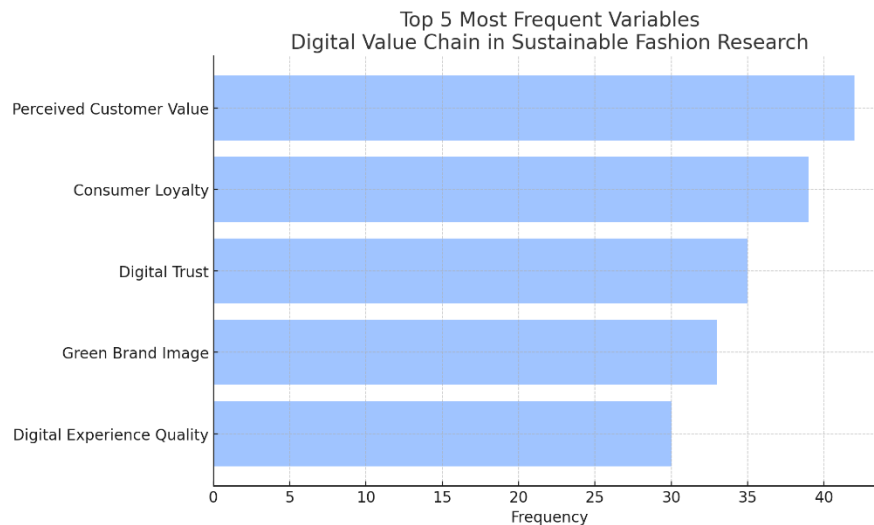


Figure 4. Most Frequent Variables

Discussion

Digital Value Chain as a Pillar of Transformation in the Local Fashion Industry.

Digital transformation is no longer optional but essential for fashion industry players in the era of Industry 4.0 and Society 5.0. The Digital Value Chain (DVC) concept positions digital technology as the primary connector across the entire value creation process—from market research, product design, production management, logistics, to marketing and customer service. In studies by Porter & Heppelmann (2015) and Li et al. (2022), DVC accelerates market responsiveness, increases efficiency, and enables personalized products through consumer data analytics.

However, for local fashion MSMEs, the implementation of DVC remains limited due to infrastructure constraints, digital skills gaps, and the lack of fully integrated digital systems. Research by Misra et al. (2021) and Putri & Anggraeni (2023) reveals that although many MSMEs have adopted e-commerce and social media, few have fully embedded digitalization into their entire value chain. This highlights a research gap and strategic opportunity to develop more effective sustainability strategies through tailored digital integration.

Sustainability as a Strategic Business Goal

Sustainability in the fashion industry is no longer a peripheral issue but a core strategic imperative. The triple bottom line framework (people, planet, profit) is widely used to evaluate the environmental, social, and economic contributions of business activities. Studies by Bocken et al. (2016) and Fletcher (2021) suggest that sustainable fashion practices include the use of eco-friendly materials (e.g., linen, organic cotton), circular fashion models (e.g., recycling, upcycling), and local production systems to reduce carbon footprints.

However, many studies still treat sustainability and digitalization as separate paths. In reality, integrating digital value chains into sustainability strategies can deliver long-term competitive advantages through energy efficiency, supply chain transparency, and data-driven waste reduction. This review emphasizes the need for a unified strategic framework that blends both approaches holistically.

Green Marketing as a Bridge Between DVC and Sustainability

Green marketing is a communication and branding strategy that emphasizes the environmental attributes of products or company practices. While often viewed as a promotional tactic, green marketing can serve as a vital bridge between sustainability values and digital strategy. Papadas et al. (2017) emphasize that effective green marketing requires a clear environmental mission, stakeholder engagement, and the use of digital channels to convey sustainability narratives. In the local fashion context, green marketing can be implemented through:

- a) Showcasing sustainable production processes on social media
- b) Providing digital eco-labels or blockchain-based traceability

- c) Collaborating with eco-conscious influencers
- d) Educating consumers via green-focused content marketing
- e) The literature reviewed here underscores that green marketing must go beyond superficial messaging; it should be deeply embedded in the digital value chain itself.

The Critical Role of MSMEs in Implementing Digital Sustainability Strategies

MSMEs play a pivotal role in the Indonesian economy and are dominant actors in the local fashion sector. Their flexibility and proximity to consumers make them ideal candidates for rapid innovation adoption. However, MSMEs also face challenges in accessing technology, capital, and global trends. Studies by the OECD (2021) and Ginting (2022) show that interventions such as digital training, technology partnerships, and sustainability incentives significantly improve MSMEs' competitiveness.

This review suggests that to drive sustainable practices in local fashion, a DVC model tailored to MSMEs must be developed. This includes:

- a) Scalable and adaptable digital platforms
- b) Locally relevant green marketing systems
- c) Collaborative production networks among MSMEs for a sharing economy model

Sustainable Fashion and the Future of the Creative Industry

Sustainable fashion is the ultimate goal of integrating DVC, green marketing, and MSME sustainability strategies. More than just using eco-friendly materials, sustainable fashion involves ethical production, consumer education, and extended product life cycles. Emerging concepts such as slow fashion, ethical fashion, and eco-design represent a global shift post-pandemic.

According to Shen (2014) and Niinimäki et al. (2020), younger consumers increasingly prefer brands that are transparent, ethical, and eco-conscious. Digital technologies—such as AI for predictive design, blockchain for traceability, and IoT for smart inventory—empower local fashion businesses to compete globally without compromising local identity. In this context, this critical review proposes a new perspective: digitalization should not only be a tool for efficiency but a pillar of sustainability.

Tabel 4. Sustainable Fashion and the Future of the Creative Industry

Variabel Keyword	Explanation Detail
Digital Value Chain (DVC)	Refers to the integration of digital technologies throughout the entire value chain—not just at the point of sale. In fashion, this includes PLM (Product Lifecycle Management), ERP (Enterprise Resource Planning), AI-powered CRM systems, smart logistics, and digital marketing. DVC enables agility, cost efficiency, and product personalization.
Sustainability	Business operations that meet current needs without compromising future generations. It includes ecological aspects (waste reduction, natural materials), social aspects (fair labor, gender empowerment), and economic viability (long-term profit through responsible practices).
Green Marketing	A strategic marketing approach that promotes the environmental and ethical attributes of a product or brand. It involves eco-labeling, transparent sourcing, educational digital content, and leveraging digital platforms to communicate sustainability to environmentally aware consumers.
MSMEs (Micro, Small, and Medium Enterprises)	These enterprises form the backbone of local economies. They are agile and culturally rooted, which makes them suitable for adopting sustainable practices. However, they need targeted support in digital adoption and green innovation.
Sustainable Fashion	An approach to fashion production and consumption that minimizes environmental impact and maximizes social and ethical responsibility. It includes slow fashion, fair trade labor, renewable materials, and digital solutions for traceability and customer education.

The Role of Digital Value Chain (DVC)

The Digital Value Chain (DVC) refers to the integration of digital technologies across all stages of the value chain—from product development and sourcing to distribution and customer interaction. In the context of local fashion MSMEs, DVC plays a critical role in overcoming operational inefficiencies, enabling innovation, and expanding market reach. One key element is digital product design, such as using CAD (Computer-Aided Design) tools to accelerate and refine the design process (Porter & Heppelmann, 2015). E-commerce integration allows businesses to distribute products via digital platforms, enhancing visibility and accessibility (Bharadwaj et al., 2013).

Digital supply chain coordination involves managing supplier relationships through cloud-based ERP systems, improving sourcing accuracy and reducing delays (Ivanov et al., 2019). Inventory and logistics management using real-time systems helps to streamline stock control and reduce excess inventory. Digital customer relationship management (CRM) tools enable data-driven interaction with customers, personalizing the customer experience and enhancing retention. Finally, data analytics and digital decision-making empower MSMEs to make timely, market-responsive business decisions through consumer trend analysis and business intelligence platforms (Chatterjee et al., 2021).

The Role of Green Marketing Strategy

This mediating variable explains how digital transformation leads to sustainability performance through environmental communication and eco-conscious practices. The green marketing strategy dimension focuses on how businesses convey their sustainability values. One element is sustainability communication, where MSMEs use platforms like Instagram, TikTok, or YouTube to educate consumers on their eco-friendly processes, such as recycling, slow fashion practices, or ethical sourcing (Leonidou et al., 2013). Eco-branding builds a green brand identity through consistent visual and verbal messaging. Digital eco-labels and certification provide traceability and environmental assurance using digital technologies such as QR codes or blockchain systems (Saberli et al., 2019). Green influencer campaigns involve collaborating with socially responsible figures who endorse the brand's sustainability ethos.

In parallel, the digital sustainability practice subdimension focuses on internal operations. Paperless operations, such as digital invoices and e-signatures, reduce waste and improve process efficiency. Blockchain-based traceability offers transparency in raw material sourcing and production, increasing stakeholder trust (Behnke & Janssen, 2020). AI for zero-waste production uses predictive analytics to optimize demand forecasting and raw material usage, while smart energy monitoring systems track and control energy consumption during manufacturing.

The Role of Sustainable Performance of Local Fashion MSMEs

Sustainable performance represents the overall outcome of digital and green strategies applied by local fashion MSMEs. A major indicator is environmental impact reduction, which includes reduced textile waste, water savings, and energy efficiency (Niinimäki et al., 2020). The use of sustainable materials such as organic cotton, bamboo fiber, or recycled textiles signifies responsible sourcing practices and aligns with green consumer values.

Consumer loyalty toward green products reflects repeated purchases and positive word-of-mouth driven by environmental and ethical concerns, rather than just price or trends (Papadas et al., 2017). Ethical labor and social impact emphasize fair wages, gender empowerment, and community engagement, contributing to the broader goals of social sustainability (Shen, 2014).

Compliance with sustainability standards—such as ISO 14001, local eco-labels, or circular economy certifications—demonstrates a business's commitment to environmental governance and legal responsibility. Lastly, market competitiveness in green segments represents the ability of MSMEs to position themselves as leaders in environmentally conscious niche markets, which is increasingly essential in both domestic and international trade (Kiron et al., 2012).

CONCLUSION

The integration of the Digital Value Chain (DVC) as a sustainability strategy represents a significant shift in how local fashion MSMEs (Micro, Small, and Medium Enterprises) can

respond to mounting environmental and social pressures while remaining competitive in an increasingly digital economy. This article has critically reviewed and synthesized the evolving literature surrounding digital transformation, green marketing, and sustainability performance, offering a conceptual framework that positions DVC not only as an operational tool but as a strategic lever for long-term, value-driven change.

The findings suggest that while the digitalization of value chain activities—such as e-commerce, digital supply chain coordination, and AI-driven customer engagement—provides opportunities for increased efficiency and market reach, these benefits alone do not guarantee sustainability. The true impact of digital transformation is realized only when it is coupled with green marketing strategies and digital sustainability practices that serve as mediating mechanisms. These strategies not only connect the technological potential of DVC with environmental outcomes but also help foster a culture of transparency, traceability, and ethical branding that resonates with the values of contemporary consumers, particularly in younger, environmentally conscious demographics.

Importantly, this review also underscores the unique challenges and opportunities faced by MSMEs in adopting such a dual strategy. While resource limitations, technological gaps, and limited institutional support may hinder the implementation of fully integrated DVC systems, the flexibility and localized market knowledge of MSMEs make them uniquely positioned to lead in sustainable innovation—if the right policy, ecosystem, and digital infrastructure support is in place.

Furthermore, the mediating role of green marketing and digital sustainability practices opens up new avenues for research and practice. It shifts the discussion from a linear understanding of digital transformation toward a more nuanced, systemic approach that considers how sustainability values are embedded, communicated, and institutionalized through digital channels. This approach also invites scholars and practitioners to re-examine the metrics by which we assess sustainability performance—moving beyond purely environmental indicators to include consumer trust, brand loyalty, ethical sourcing, and social empowerment within local creative economies.

In conclusion, this article invites a rethinking of digitalization not merely as a functional upgrade but as a strategic architecture for sustainable value creation in the fashion industry. It proposes that the digital value chain, when purposefully integrated with sustainability-oriented practices and narratives, can empower local fashion MSMEs to not only survive—but thrive—in a future where sustainability is no longer optional, but expected. This conceptualization opens the door for empirical validation, cross-sectoral benchmarking, and interdisciplinary collaboration aimed at building a more equitable, transparent, and green fashion ecosystem.

REFERENCES

- Avadanei, M., Rosca, M. I., Vatra, A.-D., & Loghin, E. (2023). Digitalisation in the Supply Chain of the Fashion Industry—Study Case. In *The 18th Romanian Textiles and Leather Conference* (pp. 194–201). <https://doi.org/10.2478/9788367405133-031>
- Bailey, K., Basu, A., & Sharma, S. (2022). The environmental impacts of fast fashion on water quality: A systematic review. *Water*, 14(7), 1073. <https://doi.org/10.3390/w14071073>
- Behnke, K., & Janssen, M. F. W. H. A. (2020). Boundary conditions for traceability in food supply chains using blockchain technology. *International Journal of Information Management*, 52, 101969. <https://doi.org/10.1016/j.ijinfomgt.2019.05.025>
- Bertola, P., & Teunissen, J. (2018). Fashion 4.0. Innovating Fashion Industry through Digital Transformation. *Research Journal of Textile and Apparel*, 22(4), 352–369. <https://doi.org/10.1108/RJTA-03-2018-0023>
- Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. (2013). Digital business strategy: Toward a next generation of insights. *MIS Quarterly*, 37(2), 471–482. <https://doi.org/10.25300/MISQ/2013/37:2.3>

- Chatterjee, S., Rana, N. P., Tamilmani, K., & Sharma, A. (2021). The role of AI-based applications in sustainable fashion: A literature review and research agenda. *Journal of Cleaner Production*, 278, 123471. <https://doi.org/10.1016/j.jclepro.2020.123471>
- Dewi, S. P., & Santoso, S. (2023). Analysis of fashion value chain sustainability to strengthen added value through entertainment activities (fashion shows). *Dinasti International Journal of Management Science*, 4(6), 1042–1055. <https://doi.org/10.31933/dijms.v4i6.1940>
- Fletcher, K. (2014). *Sustainable fashion and textiles: Design journeys* (2nd ed.). Routledge. <https://doi.org/10.4324/9781315857930>
- Glogar, M., Petrak, S., & Mahnić Naglič, M. (2023). Digital Technologies in the Sustainable Design and Development of Textiles and Clothing—A Literature Review. *Sustainability*, 15(4), 1371. <https://doi.org/10.3390/su15041371>
- Ikram, M. (2022). Transition Toward Green Economy: Technological Innovation's Role in the Fashion Industry. *Current Opinion in Green and Sustainable Chemistry*, 37, 100657. <https://doi.org/10.1016/j.cogsc.2022.100657>
- Ivanov, D., Dolgui, A., & Sokolov, B. (2019). The impact of digital technology and Industry 4.0 on the ripple effect and supply chain risk analytics. *International Journal of Production Research*, 57(3), 829–846. <https://doi.org/10.1080/00207543.2018.1488086>
- Kiron, D., Kruschwitz, N., Haanaes, K., Reeves, M., & Goh, E. (2012). Sustainability nears a tipping point. *MIT Sloan Management Review*, 53(2), 69–74. <https://sloanreview.mit.edu/projects/sustainability-nears-a-tipping-point/>
- Laudon, K. C., & Traver, C. G. (2021). *E-Commerce 2021: Business, Technology, Society*. Pearson
- Leonidou, C. N., Katsikeas, C. S., & Morgan, N. A. (2013). “Greening” the marketing mix: Do firms do it and does it pay off? *Journal of the Academy of Marketing Science*, 41(2), 151–170. <https://doi.org/10.1007/s11747-012-0317-2>
- Niinimäki, K., Peters, G., Dahlbo, H., Perry, P., Rissanen, T., & Gwilt, A. (2020). The environmental price of fast fashion. *Nature Reviews Earth & Environment*, 1(4), 189–200. <https://doi.org/10.1038/s43017-020-0039-9>
- Nindiya, T. M., & Kusumastuti, R. D. (2025). Enhancing circular economy capability in Indonesian MSMEs: The role of sustainable supply chain design in the fashion and cosmetics industries. *EcoProfit: Sustainable and Environment Business*, 2(2), 58–73. <https://doi.org/10.61511/ecoprofit.v2i2.2025.1294>
- Nugroho, H., & Sari, R. (2024). *Consumer Response to Sustainable Fashion in Emerging Markets: A Case of Indonesia*. *Journal of Sustainable Consumption*, 6(1), 33–49.
- Ogunyemi, A. A., Diyaolu, I. J., Awoyelu, I. O., Bakare, K. O., & Oluwatope, A. O. (2023). Digital Transformation of the Textile and Fashion Design Industry in the Global South: A Scoping Review. In *Towards New E-Infrastructure and E-Services for Developing Countries* (pp. 499). Springer Nature Switzerland AG. https://doi.org/10.1007/978-3-031-23446-0_38
- Orisadare, E. A. (2024). Digitalisation and Green Strategies: A Systematic Review of the Textile, Apparel and Fashion Industries. *Research Square*. <https://doi.org/10.21203/rs.3.rs-4804089/v1>
- Papadas, K. K., Avlonitis, G. J., & Carrigan, M. (2017). Green marketing orientation: Conceptualization, scale development and validation. *Journal of Business Research*, 80, 236–246. <https://doi.org/10.1016/j.jbusres.2017.05.024>
- Porter, M. E., & Heppelmann, J. E. (2015). How smart, connected products are transforming companies. *Harvard Business Review*, 93(10), 96–114. <https://hbr.org/2015/10/how-smart-connected-products-are-transforming-companies>
- Rahimah, R., & Wibowo, A. (2023). Digital transformation of MSMEs in Indonesia: A systematic literature review. *Journal of Management and Digital Business*, 3(2), 1121. <https://journal.nurscienceinstitute.id/index.php/jmdb/article/view/1121>
- Riptanti, E. W., Irianto, H., Widiyanti, E., & Prasetyo, A. (2024). Inclusivity in the sustainability of micro and small enterprises based on digital technology: A case study in Central Java,

- Indonesia. *Journal of Infrastructure, Policy and Development*, 8(9). <https://systems.enpress-publisher.com/index.php/jipd/article/view/8300>
- Russo, I., Mola, L., & Giangreco, A. (2023). Digitalisation for Survival: Managing Resources in Digitalizing Operations and Processes in the Fashion Industry. *Production Planning & Control*, 36(1), 1–19. <https://doi.org/10.1080/09537287.2023.2242707>
- Saberi, S., Kouhizadeh, M., Sarkis, J., & Shen, L. (2019). Blockchain technology and its relationships to sustainable supply chain management. *International Journal of Production Research*, 57(7), 2117–2135. <https://doi.org/10.1080/00207543.2018.1533261>
- Setiawan, R., & Pratama, A. (2023). *Digital Marketing Acceleration in MSMEs during Post-COVID Indonesia*. *Journal of Business Innovation*, 5(2), 101–115.
- Shen, B. (2014). Sustainable fashion supply chain: Lessons from H&M. *Sustainability*, 6(9), 6236–6249. <https://doi.org/10.3390/su6096236>
- Singh, J., & Bansal, S. (2024). The impact of the fashion industry on the climate and ecology. *World Journal of Advanced Research and Reviews*, 21(1), 210–215. <https://doi.org/10.30574/wjarr.2024.21.1.2610>
- Susanti, E., Mulyanti, R. Y., & Wati, L. N. (2023). MSMEs performance and competitive advantage: Evidence from women's MSMEs in Indonesia. *Cogent Business & Management*, 10(1), 2239423. <https://doi.org/10.1080/23311975.2023.2239423>
- Vassalo, A. L., Marques, C. G., Simões, J. T., Fernandes, M. M., & Domingos, S. (2024). Sustainability in the Fashion Industry in Relation to Consumption in a Digital Age. *Sustainability*, 16(13), 5303. <https://doi.org/10.3390/su16135303>
- Wida, R. E., Irianto, H., Widiyanti, E., & Prasetyo, A. (2024). Inclusivity in the sustainability of micro and small enterprises based on digital technology: A case study in Central Java, Indonesia. *Journal of Infrastructure, Policy and Development*, 8(9). <https://systems.enpress-publisher.com/index.php/jipd/article/view/8300>