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Digital Transformation in Small-scale Food Enterprises: How Young Women Leverage Social Commerce to Globalize Local Specialties

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ABSTRACT: This study examines how digital transformation contributes to market expansion performance among young women-led small-scale food enterprises in Vietnam, with social commerce proposed as a mediating mechanism and digital literacy as a moderating capability. Drawing on the Resource-Based View and Dynamic Capabilities Theory, the study conceptualizes market expansion performance as the progressive broadening of customer base and geographic market reach through digital channels, extending beyond conventional export-based measures of internationalization. Data were collected from 227 young women entrepreneurs operating small-scale food enterprises producing local agricultural and food specialties across Vietnam, and the proposed model was tested using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results indicate that digital transformation has a significant positive effect on both social commerce and market expansion performance, and that social commerce partially mediates the relationship between digital transformation and market expansion performance. Digital literacy significantly and positively moderates both the digital transformation–social commerce relationship and the social commerce–market expansion performance relationship, indicating that entrepreneurs' digital competencies strengthen the conversion of digital capabilities into market-facing outcomes. These findings extend the application of the Resource-Based View and Dynamic Capabilities Theory to digitally enabled market expansion in an emerging-market, gender-specific, and place-based entrepreneurial context. The study offers practical implications for young women entrepreneurs, provincial authorities, and national policymakers seeking to strengthen digital capabilities and social commerce practices to help geographically and culturally rooted local specialties reach broader domestic and international markets.

KEYWORDS: Digital literacy; digital transformation; market expansion performance; social commerce; women entrepreneurship.

I. INTRODUCTION

In recent years, digital transformation (DT) has fundamentally reshaped the business environment by enabling micro, small, and medium-sized enterprises (MSMEs) to overcome traditional resource and geographic constraints. The diffusion of digital technologies has allowed smaller firms to transform how they communicate with customers, organize business activities, market products, and access geographically dispersed markets. Although a persistent gap remains between smaller and larger firms in adopting advanced digital technologies, DT can enable SMEs to develop new organizational capabilities and leverage digital platforms to overcome resource limitations and reach markets beyond their traditional geographic boundaries (OECD, 2024; Li et al., 2018). Thus, DT represents not merely the adoption of technologies but a strategic process through which smaller enterprises reconfigure resources and develop new ways of creating and capturing market value. This issue is particularly relevant to small-scale food enterprises (SFEs), which often operate within localized production and distribution networks and face constraints related to limited resources, dependence on intermediaries, and geographic distance from consumers. Such constraints are especially important for enterprises producing local agricultural and food specialties, whose value is closely associated with geographical origins, traditional production practices, cultural heritage, and local identity. While these place-based characteristics can differentiate local specialties from standardized products, conventional distribution channels may restrict their ability to reach consumers beyond local markets. DT consequently provides opportunities for SFEs to communicate directly with consumers, develop digital brand identities, and extend the market reach of geographically rooted products.

A key manifestation of this transformation is the emergence of social commerce, which integrates social interaction, content creation, relationship building, and commercial transactions within digital environments (Hajli, 2015; Zhang & Benyoucef, 2016).

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Unlike conventional e-commerce, social commerce embeds commercial activities within social interactions and user-generated content, allowing entrepreneurs to communicate not only functional product attributes but also authenticity, cultural origins, and place-based meanings. These characteristics are particularly relevant to local specialties because their value often extends beyond physical product attributes to include cultural and symbolic dimensions. The development of livestreaming and short-form video has further expanded these opportunities by combining product demonstrations, storytelling, real-time interaction, entertainment, and transactions. Recent research indicates that firm characteristics and the strategic use of livestreaming can influence SME commerce performance, highlighting the growing relevance of interactive digital channels for smaller businesses (Hwang et al., 2026). Nevertheless, existing social commerce research has largely focused on consumer-oriented outcomes such as trust, purchase intention, and relationship formation (Hajli, 2015; Zhang & Benyoucef, 2016), while less attention has been given to how social commerce functions as a mechanism through which DT contributes to the market expansion of small enterprises.

This issue is particularly salient in Vietnam, where digital commerce has expanded rapidly. Vietnam's e-commerce market was valued at approximately US$22 billion in 2024, creating an increasingly important environment for micro and small enterprises to connect with geographically dispersed consumers (Reuters, 2024). Digital platforms may reduce the distance between geographically rooted production and geographically dispersed demand, allowing local specialty producers to introduce traditionally localized products to consumers in other provinces, major urban centers, and potentially international markets. In this context, social commerce is not only a transactional channel but also an interactive space through which entrepreneurs can construct business identities, communicate authenticity, and build relationships with consumers. Through digital storytelling, visual content, and direct interaction, entrepreneurs can communicate the cultural and geographical meanings of local specialties to consumers who may have no direct connection with their places of origin. Young women entrepreneurs represent an important group within this transformation. Women's entrepreneurship in Vietnam continues to face challenges related to access to finance, training, skills, support systems, and work-life balance (Christodoulou et al., 2024). The Vietnam Women's Initiative for Startups and Entrepreneurship (WISE) reports that women-owned businesses account for approximately 17% of businesses in Vietnam, while women-led businesses account for approximately 27%; notably, 97.2% of women-owned and women-led businesses remain at the micro or small scale (WISE, 2025). These conditions highlight the importance of understanding how digital technologies may support the market development of women-led small businesses.

Digital literacy is particularly relevant because digital technologies do not automatically translate into effective business outcomes. Entrepreneurs need the knowledge and skills to identify, adopt, and strategically use digital technologies. Research on women entrepreneurs in small businesses emphasizes the need to continuously acquire and develop digital skills to adapt to increasing digitalization and effectively use social media in business activities (Tiggemann & Haines, 2021). This capability may be especially important for young women entrepreneurs operating SFEs, where the entrepreneur often performs multiple functions, including business management, marketing, content creation, customer communication, and online transactions. Differences in digital literacy may therefore influence how effectively DT is translated into social commerce activities and, subsequently, broader market expansion. The development of digitally enabled entrepreneurship also aligns with Vietnam's policy environment. Decision No. 749/QĐ-TTg established the National Digital Transformation Programme through 2025, with orientations toward 2030, providing a national framework for accelerating digital transformation across economic and social activities (Prime Minister of Vietnam, 2020). Meanwhile, the One Commune One Product (OCOP) programme supports products associated with local resources, cultural identities, and regional strengths, creating an important institutional context for the commercialization of local specialties. More recently, Decision No. 2415/QĐ-TTg approved the national scheme on supporting women in entrepreneurship for 2026–2035, including support for women-owned businesses in digital transformation and sustainable development (Prime Minister of Vietnam, 2025). These initiatives underscore the increasing policy relevance of digital transformation, women's entrepreneurship, and locally rooted products in Vietnam.

Against this background, understanding how young women leverage DT and social commerce to expand the market boundaries of local specialties is theoretically and practically important. However, three gaps remain concerning the conceptualization of market expansion, the mechanism linking DT to market expansion, and the role of digital literacy. Firstly, a conceptual and measurement gap concerns Market Expansion Performance (MEP). Market expansion has been conceptualized as firms' efforts to grow by selling existing products to new customers and in new markets, including expansion into other domestic markets, international markets, and the acquisition of new customers within the home market (Hurtado González et al., 2009). This perspective emphasizes the broadening of a firm's customer and market scope rather than export activity alone. Hurtado González et al. (2009) also identify market expansion as a pathway through which web adoption can contribute to firm performance, suggesting that digital technologies can facilitate firms' efforts to reach new customers and markets. However,

research on international entrepreneurship and SME internationalization has often relied on indicators such as export performance, foreign sales, and the extent of internationalization. Such measures may not fully capture the digitally enabled expansion pathways available to micro and small enterprises. Digital platforms allow firms to reach geographically distant customers without immediately establishing physical infrastructure, formal distribution networks, or conventional export structures. Although research has shown that SMEs can leverage digital platforms to overcome resource and capability constraints in cross-border e-commerce (Li et al., 2018), limited attention has been given to how market expansion can be conceptualized and measured for SFEs whose products are culturally and geographically embedded. For these enterprises, market expansion may occur progressively from local communities to other provinces, major cities, and eventually international consumers, without immediately involving formal exporting. Therefore, this study conceptualizes Market Expansion Performance (MEP) as the extent to which SFEs expand their customer base and geographic market reach beyond traditional local boundaries. This conceptualization captures the broader process through which digital channels enable the globalization of geographically and culturally rooted local specialties. Secondly, a mechanism gap concerns how DT contributes to market expansion through Social Commerce. Existing research suggests that DT can enhance SME capabilities and business performance (Li et al., 2018), while social commerce facilitates social interaction, trust, relationship formation, and consumer engagement (Hajli, 2015; Zhang & Benyoucef, 2016). Research has also found that social media adoption can contribute to SME performance (Ainin et al., 2015). However, these streams of research have not been sufficiently integrated to explain how digital capabilities are translated into market expansion. Activities such as digital storytelling, interactive content creation, livestream interaction, and direct consumer engagement may represent the processes through which DT becomes market-facing activity. Yet limited research has examined whether and how Social Commerce mediates the relationship between DT and MEP, particularly among SFEs whose products carry strong cultural and geographical identities. This study therefore positions Social Commerce as a mediating mechanism through which DT may influence MEP. Thirdly, a capability and boundary-condition gap concerns Digital Literacy. Digital transformation alone does not guarantee effective business outcomes; entrepreneurs must possess the knowledge and skills necessary to use digital technologies strategically. Research on women entrepreneurs highlights the continuing need to develop digital skills to adapt to digitalization and use social media effectively in business activities (Tiggemann & Haines, 2021). However, relatively limited research has examined Digital Literacy as a moderating capability that conditions how effectively DT is translated into Social Commerce and how effectively Social Commerce contributes to market expansion. This issue is particularly relevant to young women entrepreneurs operating SFEs because they often directly manage digital technology adoption, content creation, customer interaction, and online transactions. Differences in digital literacy may therefore influence the strength of both the DT and Social Commerce as well as Social Commerce and MEP relationships. Accordingly, this study examines Digital Literacy as a moderator of these two relationships.

To address these gaps, this study draws on the Resource-Based View (RBV) and Dynamic Capabilities Theory (DCT). RBV explains how firms can create competitive advantage by developing and deploying valuable resources and capabilities (Barney, 1991). In this study, DT represents an important capability base that enables SFEs to overcome resource and geographic constraints by improving access to information, consumers, and new market opportunities. DCT complements RBV by explaining how firms sense opportunities, seize them, and reconfigure resources in response to changing environments (Teece et al., 1997). This perspective is particularly relevant to Social Commerce because entrepreneurs must continuously adapt digital content, storytelling, consumer interactions, and online selling practices to changing consumer preferences and platform environments. The two perspectives therefore provide complementary foundations for the proposed framework. RBV explains the importance of digital resources and capabilities, while DCT explains how these capabilities are mobilized and adapted through Social Commerce to pursue new market opportunities. Within this framework, DT represents the development and deployment of digital capabilities, Social Commerce represents the mechanism through which these capabilities are translated into market-facing activities, and MEP reflects the resulting expansion of customer and geographic market reach. Digital Literacy functions as a boundary condition that may influence the effectiveness of these processes.

This study makes theoretical and practical contributions. Theoretically, it extends the application of RBV and DCT to young women-led SFEs in an emerging-market context by examining digitally enabled market expansion beyond conventional export-based internationalization. It also contributes to social commerce research by positioning Social Commerce as a mediating mechanism linking DT with MEP and Digital Literacy as a boundary condition shaping these relationships. Practically, the study provides insights into how young women entrepreneurs may use digital storytelling, content creation, interactive engagement, and livestream commerce to expand the reach of local specialties. It may also provide empirical implications for policymakers, women's entrepreneurship organizations, and business development institutions seeking to strengthen the digital capabilities of women-led micro and small enterprises in line with Vietnam's broader digital transformation and women's entrepreneurship

agenda. The study is organized into five sections: (1) Introduction; (2) Literature Review and Hypothesis Development; (3) Methodology; (4) Results and Discussion; and (5) Conclusion.

II. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Digital Transformation in Small-scale Food Enterprises

Digital transformation refers to a broader organizational process through which digital technologies are integrated into business activities and capabilities, enabling firms to develop new ways of creating and capturing value (Vial, 2019). Unlike digitization, which primarily involves converting analog information into digital formats, and digitalization, which concerns the use of digital technologies to improve existing processes, digital transformation involves more fundamental changes in organizational capabilities, business models, and value creation processes (Verhoef et al., 2021). For small and medium-sized enterprises (SMEs), digital transformation is particularly relevant because digital technologies can help firms with limited resources develop new capabilities and compete in markets that would otherwise be difficult to access (Li et al., 2018). Li et al. (2018), for example, demonstrate that SME entrepreneurs can drive digital transformation through processes including managerial cognition renewal, social capital development, team building, and organizational capability building. Their findings highlight that digital transformation in SMEs is not simply a technological adoption decision but a capability-building process through which entrepreneurs can overcome resource constraints and pursue new market opportunities. The implications of digital transformation are particularly significant for small-scale food enterprises, which often operate with limited financial, technological, and human resources. Unlike larger food manufacturers and distributors, SFEs may have fewer resources to establish extensive physical distribution networks, invest in conventional advertising, or access distant consumer markets. Digital technologies can therefore provide an alternative means of connecting enterprises with customers and developing new market channels. Digital platforms can support activities ranging from online customer communication and digital marketing to electronic transactions and data-driven decision-making, potentially allowing small enterprises to reduce their dependence on traditional intermediaries and reach consumers beyond their immediate geographic locations (Li et al., 2018; Cannas, 2021).

In the agrifood sector, the increasing digitalization of business activities has also created opportunities for smaller producers and food enterprises to participate in digitally mediated markets. Research on agrifood SMEs suggests that digital transformation can support firms in developing capabilities to respond to changing market environments, while digitalization can reshape organizational structures and business practices within territorially rooted agrifood enterprises (Cannas, 2021). Digital technologies can facilitate more direct interactions between producers, businesses, and consumers, while online platforms can help enterprises communicate product information and respond to changing market demand. For enterprises producing local agricultural and food specialties, these capabilities are particularly relevant because their products are often geographically rooted and associated with distinctive cultural identities. Digital transformation may therefore enable SFEs to communicate the uniqueness of their products to consumers outside their traditional markets while simultaneously developing new channels for customer acquisition and relationship building. Digital transformation is therefore particularly relevant to local food and agricultural specialties because digital technologies can create new ways for geographically rooted enterprises to communicate the characteristics that distinguish their products. In territorial and value-oriented agrifood enterprises, digitalization can interact with existing organizational capabilities and relationships rather than simply replacing traditional business practices (Cannas, 2021). In this context, digital transformation may support the communication of product origin, production practices, cultural meanings, and other place-based characteristics to consumers who are geographically distant from the production area. This creates a potential pathway through which digital transformation can help small-scale food enterprises move from geographically constrained business models toward digitally enabled market participation.

The Vietnamese context provides a particularly relevant setting for examining this relationship. Vietnam’s rapid development of the digital economy and e-commerce has created an increasingly accessible digital environment for micro and small businesses. At the same time, local agricultural and food specialties remain an important component of Vietnam's rural and regional economies. The intersection between these two developments creates opportunities for SFEs to use digital technologies to move beyond geographically constrained business models. However, the adoption of digital technologies alone does not necessarily guarantee market expansion. Rather, digital capabilities must be translated into concrete market-facing activities through which firms communicate with consumers, create value, and build relationships. This suggests that the effect of digital transformation on market expansion performance may operate not only directly but also through specific digital business activities, particularly social commerce.

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Social Commerce

Social commerce represents the convergence of social media and e-commerce, in which social interaction and commercial activities are integrated within digital environments. Hajli (2015) conceptualizes social commerce through social media-based mechanisms that facilitate interaction, information sharing, and trust formation in the purchasing process. Similarly, Zhang and Benyoucef (2016) describe social commerce as an emerging form of commerce in which social interactions and commercial activities are closely interconnected. Unlike conventional e-commerce, where consumers typically search for products with relatively explicit purchase intentions, social commerce embeds commercial activities within social and content-driven environments. A defining characteristic of social commerce is therefore the integration of social interaction into the customer journey. Consumers may encounter products through user-generated content, recommendations, online communities, livestreams, or conversations rather than through deliberate product searches alone. These interactions can reduce uncertainty, facilitate trust, and encourage consumers to engage with products and sellers. Social commerce consequently extends beyond the transactional function of e-commerce by incorporating relational and communicative processes into commercial activities (Hajli, 2015; Zhang & Benyoucef, 2016).

For small-scale enterprises, these characteristics may provide an important mechanism for overcoming traditional resource limitations. Conventional marketing and distribution systems often require significant financial resources and established market networks. Social commerce, by contrast, allows smaller businesses to communicate directly with consumers through relatively accessible digital platforms. Entrepreneurs can create content, respond to customers, demonstrate products, and build communities around their brands without relying exclusively on traditional advertising or physical retail infrastructure. Research on SMEs has also shown that social media use can contribute to business performance by facilitating customer relationships and improving organizational outcomes (Ainin et al., 2015). Social commerce may be particularly valuable for small-scale food enterprises because food products often require consumers to evaluate qualities that are difficult to communicate through static product descriptions alone. Through visual content, video, livestreaming, and interactive communication, sellers can demonstrate product preparation, production processes, freshness, packaging, and consumption experiences. For local specialties, these digital interactions can also communicate information about the product's geographic origin, cultural significance, and traditional production practices. Social commerce therefore provides a potentially important mechanism through which geographically rooted products can be presented to consumers who are physically distant from their places of production. The relationship between digital transformation and social commerce can be understood through the broader capability-building process associated with digital transformation. As enterprises transform their business processes and develop digital capabilities, they become better positioned to integrate digital channels into marketing, customer communication, and commercial activities. Digital transformation may therefore provide the technological and organizational foundation necessary for enterprises to develop more sophisticated social commerce practices. In this sense, social commerce represents a concrete market-facing manifestation of the broader digital transformation process.

Market Expansion Performance

Market expansion performance refers to the extent to which an enterprise successfully expands its market reach beyond its existing customer base and traditional geographic boundaries (Forrest et al., 2021). In the context of small-scale food enterprises, market expansion should not be understood exclusively through conventional export performance or foreign sales. Instead, digitally enabled market expansion may involve reaching consumers in new provinces, cities, demographic segments or international markets through digital channels. This conceptualization is particularly appropriate for small-scale food enterprises because the expansion of their markets may occur incrementally. An enterprise producing a geographically rooted specialty may initially sell within its local community, subsequently reach consumers in major urban centers through digital platforms, and eventually access international consumers. Such expansion may occur without the firm immediately establishing foreign subsidiaries or developing formal export operations. Therefore, a broader conceptualization of Market Expansion Performance can capture the market reach achieved through digitally enabled channels that conventional export indicators may overlook.

Digital transformation can contribute to Market Expansion Performance by allowing enterprises to overcome limitations associated with physical distance and traditional distribution structures. As digital technologies enable businesses to communicate with geographically dispersed consumers, collect market information, and develop new customer acquisition channels, firms may gain greater opportunities to identify and serve previously inaccessible market segments. Li et al. (2018) demonstrate how SME entrepreneurs can use digital platforms to support transformation and compete in cross-border e-commerce environments, illustrating the potential of digital capabilities to facilitate access to broader markets. For small-scale food enterprises, however, the relationship between digital transformation and market expansion performance may not be

entirely automatic. Digital transformation creates the technological and organizational foundation for new market opportunities, but enterprises must still translate these capabilities into effective market-facing activities. Social Commerce may provide precisely this mechanism by allowing enterprises to transform digital capabilities into customer interaction, product communication, relationship building and commercial engagement. Consequently, digital transformation may have both a direct effect on market expansion performance and an indirect effect through social commerce.

Digital Literacy

Digital literacy refers broadly to the knowledge, skills, and competencies required to access, understand, evaluate, communicate, and effectively use digital technologies (Spires et al., 2019). In entrepreneurial contexts, digital literacy extends beyond basic technical proficiency to include the ability to use digital tools strategically for communication, marketing, information management, and business activities. Digital literacy is particularly important for small-scale enterprises because entrepreneurs often play a central role in the adoption and implementation of digital technologies. Unlike larger organizations with specialized information technology, marketing, or e-commerce departments, small businesses may depend heavily on the entrepreneur's own ability to identify relevant technologies and integrate them into daily business activities. Recent research on small and micro-enterprises suggests that digital literacy can facilitate the digital transformation process by helping entrepreneurs overcome barriers to technology adoption and by strengthening their ability to engage with training, networking, and digital innovation initiatives (Coco et al., 2024). Similarly, Raharjo et al. (2024) demonstrate that digital literacy is closely associated with digital transformation in small businesses, highlighting the importance of entrepreneurs' digital knowledge and capabilities in adapting to changing digital consumer behavior. This issue is particularly relevant to women entrepreneurs in Vietnam. Recent evidence from Vietnam indicates that improving the digital skills of women entrepreneurs is important for enabling them to participate more effectively in the digital economy and to make productive use of emerging digital technologies (UNDP, 2024). Such evidence suggests that access to digital technologies alone is insufficient to ensure effective digital participation. Entrepreneurs must also possess the skills required to use these technologies strategically and confidently. This argument is also supported by recent research on women entrepreneurs and social commerce. Al Omoush (2024) found that social commerce literacy significantly contributes to the successful adoption of social commerce businesses among women entrepreneurs. The study emphasizes that women with stronger knowledge and competencies in online sales, digital marketing, customer engagement, and data analysis are better positioned to utilize social commerce platforms for business development and expansion.

Theoretical Foundations

The Resource-Based View provides a foundational perspective for understanding how firms achieve competitive advantage through the possession and deployment of valuable resources and capabilities. Barney (1991) argues that firms differ in the resources they control and that resources possessing characteristics such as value, rarity, imperfect imitability, and lack of substitutability can contribute to sustained competitive advantage. The RBV is relevant to this study because small-scale food enterprises operate under substantial resource constraints. Their ability to compete in broader markets may depend not only on their physical products but also on their capacity to develop and deploy intangible resources and capabilities. Digital capabilities can represent an important strategic resource because they may enable enterprises to access information, communicate with consumers, develop digital marketing channels, and reach geographically dispersed markets. Within the proposed model, RBV provides the theoretical basis for understanding Digital Transformation as a capability that can enhance an enterprise's ability to create market opportunities. Digital Transformation enables SFEs to develop and deploy digital resources across business activities, while Social Commerce represents one way in which these resources are mobilized to engage consumers and create market-facing value. Ultimately, these capabilities may contribute to Market Expansion Performance by allowing enterprises to reach customer groups and geographic markets that would be difficult to access through traditional channels. However, RBV primarily emphasizes the strategic value of resources and capabilities and provides less explanation of how these resources are continuously adapted to changing environments. This limitation creates a rationale for complementing RBV with Dynamic Capabilities Theory.

Dynamic Capabilities Theory focuses on how firms adapt, integrate, and reconfigure internal and external resources in response to changing environments. Teece et al. (1997) conceptualize dynamic capabilities as the firm's ability to integrate, build, and reconfigure competencies to address rapidly changing environments. DCT is particularly appropriate for the context of digital transformation because digital markets are characterized by rapid technological change, evolving consumer behavior, and constantly changing platform environments. Enterprises must therefore continuously adapt their digital practices rather than simply adopt a technology once and maintain it unchanged. Within this study, DCT helps explain how Digital Transformation can

be translated into Social Commerce activities and subsequently into Market Expansion Performance. Digital transformation provides the technological and organizational foundation, but enterprises must continuously reconfigure these capabilities through activities such as digital content creation, customer interaction, storytelling, and online engagement. Social Commerce can therefore be understood as a dynamic market-facing capability through which enterprises sense emerging consumer opportunities, seize them through digital engagement, and reconfigure their approaches as market conditions evolve.

The integration of RBV and DCT therefore provides a complementary theoretical foundation for the proposed model. RBV explains why digital resources and capabilities can provide strategic value, whereas DCT explains how enterprises dynamically mobilize and reconfigure these capabilities to respond to market opportunities. In the proposed framework, Digital Transformation represents the development and deployment of digital capabilities; Social Commerce represents the mechanism through which these capabilities are translated into market-facing activities; and Market Expansion Performance represents the resulting market outcome. Digital Literacy functions as a boundary condition that may determine the strength of the transformation of digital capabilities into social commerce and the subsequent translation of social commerce activities into market expansion.

Hypothesis Development

Digital Transformation and Social Commerce

Digital Transformation refers to the organizational process of integrating digital technologies and capabilities into business activities, thereby changing how firms operate, interact with stakeholders, and create value (Verhoef et al., 2021). Rather than representing the simple adoption of individual technologies, DT involves the development of organizational capabilities that allow firms to use digital technologies to transform business processes and respond to changing market conditions. Research on SMEs indicates that entrepreneurs can drive DT through the development of managerial, social, and organizational capabilities, particularly when digital platforms provide access to resources that would otherwise be difficult for smaller firms to obtain (Li et al., 2018). For small-scale food enterprises, these digital capabilities can support activities such as online communication, digital content creation, customer relationship management, social media marketing, and digital selling. Social commerce represents a market-facing application of such capabilities by combining social interaction, user-generated content, relationship building, and commercial activities within digital environments (Hajli, 2015; Zhang & Benyoucef, 2016). Social commerce therefore differs from conventional e-commerce in that commercial exchanges are embedded within social interaction and content-sharing processes.

From an RBV perspective, digital capabilities constitute valuable organizational resources that can enable small firms to develop new ways of interacting with customers and accessing markets (Barney, 1991). However, possessing digital resources alone does not guarantee that firms will use them effectively. From a Dynamic Capabilities perspective, firms must mobilize, integrate, and reconfigure resources in response to changing environments (Teece et al., 1997). Social Commerce can therefore be understood as one form of market-facing activity through which firms translate digital capabilities into customer interaction and commercial engagement. Empirical research provides supporting evidence for this relationship. Li et al. (2018), for example, demonstrate how SME entrepreneurs develop organizational capabilities through digital transformation and digital platforms. Similarly, research on SMEs shows that social media use is associated with organizational performance and that interactivity and other characteristics of social media influence its business use (Ainin et al., 2015; Tajudeen et al., 2018). More recently, Hwang et al. (2026) found that SMEs adopting livestream commerce experienced significant improvements in several sales-related performance indicators, highlighting the importance of digital capabilities for developing interactive commerce practices. Based on above agurments, the study proposed the following hypothesis:

H1: Digital transformation has a positive effect on social commerce.

Digital Transformation and Market Expansion Performance

Market expansion involves the growth of a firm's customer and market scope through the development of new markets and acquisition of new customers (Hurtado González et al., 2009). For SFEs, this process may involve moving from local customers to consumers in other provinces, major urban centers, and eventually international markets. Digital technologies can facilitate this process by reducing the importance of physical distance and enabling small firms to communicate directly with geographically dispersed customers. Digital Transformation can provide firms with capabilities for accessing market information, communicating with customers, developing digital channels, and coordinating commercial activities. These capabilities are particularly valuable for small firms because resource constraints and limited access to conventional distribution networks can restrict their ability to enter geographically distant markets. Li et al. (2018) show that SME entrepreneurs can use digital platforms to develop organizational capabilities and overcome resource constraints in cross-border e-commerce. Similarly,

research on digital platforms indicates that they can reduce some entry barriers for SMEs by facilitating access to networks and helping firms overcome resource constraints when entering foreign markets (Jin & Hurd, 2018).

The relationship can also be explained through RBV. Digital capabilities represent valuable resources that enable smaller firms to access information, communicate with customers, and develop market opportunities that may be difficult to pursue through traditional channels (Barney, 1991). DCT further suggests that firms can generate value from these resources when they are able to sense market opportunities, seize them, and reconfigure their resources in response to environmental change (Teece et al., 1997). Thus, DT may enhance not only the efficiency of existing activities but also an enterprise's capacity to identify and pursue geographically broader markets. Recent empirical evidence further supports the importance of digital capabilities for SME growth. Scuotto et al. (2021), using a large sample of European SMEs, demonstrate that individual digital capabilities are important for SME growth and innovation because they help firms respond to changes in the market. More recent evidence also indicates that digital capabilities are positively associated with entrepreneurial performance among SMEs, with digital literacy and digital fluency contributing to opportunity capability and performance outcomes (Qadir et al., 2024). Based on above agurments, the study proposed the following hypothesis:

H2: Digital transformation has a positive effect on market expansion performance.

Social Commerce and Market Expansion Performance

Social Commerce enables firms to combine commercial activities with social interaction, content sharing, relationship building, and consumer engagement. These characteristics may be particularly valuable for small enterprises because social commerce allows them to communicate with potential customers without relying exclusively on conventional physical distribution and marketing channels (Hajli, 2015; Zhang & Benyoucef, 2016). For local food specialties, the market value communicated through Social Commerce may extend beyond functional product attributes. Digital content can communicate geographical origin, production practices, cultural identity, authenticity, and stories associated with the product. Such information can reduce consumers' informational distance from geographically rooted products and increase awareness among customers who have no direct physical connection with the communities in which these products originate.

Social Commerce may also facilitate market expansion through continuous consumer interaction. Entrepreneurs can use social media content, live interaction, customer comments, recommendations, and digital communities to identify potential customers and maintain relationships with existing ones. Evidence from SMEs indicates that social media use can generate both financial and non-financial performance benefits (Ainin et al., 2015), while Tajudeen et al. (2018) show that social media usage can generate performance benefits for SMEs through characteristics such as interactivity and compatibility. Livestream commerce provides a particularly relevant example of how social interaction can be integrated with commercial activities. Hwang et al. (2026), examining actual performance data from 32 SMEs, found significant increases in the number of buyers, payments, revenue, and items sold following the adoption of livestream commerce. Other recent research similarly demonstrates that livestream commerce can influence sales through audience engagement, interaction, and product presentation (He et al., 2026; Zhang et al., 2024). From the perspective of DCT, Social Commerce can be understood as a market-facing capability through which entrepreneurs identify consumer opportunities, engage new market segments, and continuously adapt their communication and selling strategies. Through these processes, Social Commerce can help SFEs transform digital interactions into customer acquisition and broader market reach. The study proposed the following hypothesis:

H3: Social commerce has a positive effect on market expansion performance.

The Mediating Role of Social Commerce

Although digital transformation can provide enterprises with technological and organizational capabilities for reaching broader markets, digital capabilities alone may not automatically generate market expansion. The value of digital resources depends on how firms deploy them in market-facing activities. From an RBV perspective, DT provides a valuable capability base, while DCT emphasizes the processes through which these capabilities are mobilized and reconfigured to respond to environmental opportunities (Barney, 1991; Teece et al., 1997). Social commerce provides a potential mechanism linking these capabilities to market outcomes. DT can equip SFEs with the technological infrastructure, digital knowledge, and organizational capabilities required to operate in digital environments. However, these capabilities need to be translated into activities through which enterprises communicate with customers, create content, establish relationships, generate engagement, and conduct transactions. Social Commerce represents this translation process by connecting digital capabilities with direct market interaction.

Existing research provides evidence for the individual components of this mechanism. Digital transformation research shows that SMEs can develop organizational capabilities through digital technologies and platforms (Li et al., 2018), while social commerce and social media research demonstrates that digital interaction and engagement can generate business-related

outcomes (Ainin et al., 2015; Tajudeen et al., 2018). The proposed mediation is therefore theoretically consistent with the combined logic of RBV and DCT. While DT represents the development of valuable digital resources and capabilities, social commerce represents the process through which these capabilities are deployed in market-facing activities, and market expansion performance represents the resulting expansion of customer and geographic reach. In this sense, social commerce can serve as a transmission mechanism through which digital capabilities are converted into market expansion outcomes. Based on above agurments, the study proposed the following hypothesis:

H4: Social commerce mediates the positive relationship between digital transformation and market expansion performance.

The Moderating Role of Digital Literacy

Digital transformation and social commerce both require entrepreneurs to possess the knowledge and skills necessary to use digital technologies effectively. Digital Literacy can therefore represent an important individual-level capability that determines whether technological resources can be converted into effective business practices. For women entrepreneurs in small businesses, digital skills are particularly relevant because entrepreneurs frequently have to learn and manage digital technologies themselves. Olsson & Bernhard (2021), based on qualitative research involving women entrepreneurs in small businesses, found that women entrepreneurs continuously acquire new digital skills to keep pace with digitalization and to use social media effectively for business activities. Their findings emphasize learning-by-doing, informal learning, and continuous self-development as important ways through which women entrepreneurs develop digital capabilities.

Recent SME research similarly suggests that digital literacy and digital fluency are important components of digital capability and are associated with opportunity recognition and entrepreneurial performance (Qadir et al., 2024). Research on SMEs also indicates that individual digital capabilities are important for responding to market changes and supporting growth and innovation (Scuotto et al., 2021). These findings suggest that Digital Literacy may not simply have an independent effect on business outcomes; it may also determine how effectively entrepreneurs convert existing digital capabilities into market-facing practices. Accordingly, this study conceptualizes Digital Literacy as a moderator of the two relationships in the proposed model. Entrepreneurs with higher Digital Literacy are likely to be better able to identify relevant digital tools, understand platform functions, create and manage digital content, interpret digital information, and integrate technologies into their business processes. This argument is consistent with the capability perspective of DT, which emphasizes that digital technologies generate value when organizations develop the capabilities necessary to use them effectively (Li et al., 2018). It is also consistent with research on women entrepreneurs showing that continuous development of digital skills is necessary to use social media and other digital technologies for business purposes (Olsson & Bernhard, 2021). Therefore, when digital literacy is high, entrepreneurs should be better able to translate DT into interactive and commercially oriented social commerce activities. Conversely, when digital literacy is low, the availability of digital technologies may not be fully converted into effective social commerce practices because entrepreneurs may face difficulties in selecting tools, producing content, interpreting digital feedback, or adapting to changing platform environments. Based on above agurments, the study proposed the following hypothesis:

H5a: Digital literacy positively moderates the relationship between digital transformation and social commerce.

Digital literacy may also influence whether social commerce activities translate into market expansion outcomes. Social Commerce requires entrepreneurs to continuously create and manage digital content, interact with consumers, monitor engagement, interpret feedback, and adapt their strategies to changing platform environments. Consequently, the effectiveness of social commerce may depend not only on whether entrepreneurs use digital platforms but also on how effectively they understand and manage these environments. Entrepreneurs with higher Digital Literacy may be better able to identify consumer preferences, interpret platform data, optimize content, manage online customer relationships, and identify opportunities to reach new market segments. These capabilities can increase the likelihood that social interactions are transformed into customer acquisition and broader market reach. Evidence from SMEs indicates that digital literacy is associated with entrepreneurial skills and performance outcomes, including market-related outcomes such as market access and customer communication (Novela et al., 2024). In addition, research on women entrepreneurs demonstrates that continuous development of digital skills is important for capturing the business potential of social media and digitalization (Olsson & Bernhard, 2021). The moderating argument is therefore that social commerce is more likely to generate market expansion performance when entrepreneurs possess the digital knowledge required to manage, interpret, and strategically adapt their digital interactions. In contrast, limited digital literacy may restrict the entrepreneur's ability to convert social commerce activities into sustained customer and geographic expansion. Based on above agurments, the study proposed the following hypothesis:

H5b: Digital literacy positively moderates the relationship between social commerce and market expansion performance.

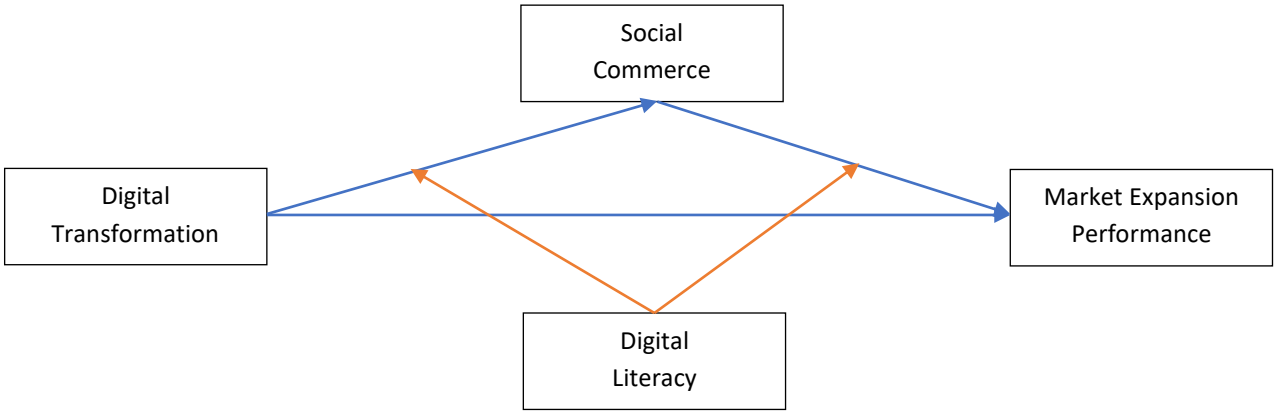


Figure 1. Research Model

III. METHODOLOGY

Measurement and Questionnaire Development

A structured questionnaire was developed based on measurement scales adapted from established studies to ensure the reliability and validity of the constructs in the proposed research model. The measurement items were adapted and contextualized to reflect the characteristics of young women entrepreneurs operating small-scale food enterprises (SFEs) in Vietnam, while preserving the original conceptual meanings of the scales. The questionnaire was initially developed in English and subsequently translated into Vietnamese. The Vietnamese version was carefully reviewed to ensure linguistic clarity, conceptual equivalence, and appropriateness for the target respondents. All constructs were measured using a five-point Likert scale ranging from "1 = Totally disagree" to "5 = Totally agree". The questionnaire consisted of two sections. The first section collected demographic and business-related information about the respondents and their enterprises. The second section measured the four constructs in the proposed research model: Digital Transformation (DT), Social Commerce (SC), Market Expansion Performance (MEP), and Digital Literacy (DL).

Each construct was measured using four items, resulting in a total of 16 measurement items. The measurement scales were adapted from previous studies and contextualized to the setting of young women entrepreneurs operating small-scale food enterprises in Vietnam. Specifically, the Digital Transformation (DT) scale was adapted from Li et al. (2018), the Social Commerce (SC) scale from Hajli (2015) and Zhang & Benyoucef (2016), the Market Expansion Performance (MEP) scale from Hurtado González et al. (2009), and the Digital Literacy (DL) scale was developed based on the digital skills perspective of Olsson & Bernhard (2021). All items were revised to ensure their relevance to the context of local specialty food businesses while maintaining the original meanings of the constructs.

Sample, Data Collection and Analysis

Data were collected from young women entrepreneurs operating small-scale food enterprises in Vietnam. The unit of analysis was the individual entrepreneur, and respondents were required to be women who were actively involved in owning, managing, or operating a small-scale food business. The target enterprises included businesses producing or selling local agricultural and food specialties, such as processed foods, traditional foods, specialty agricultural products, beverages, confectionery, and other locally rooted food products. These respondents were considered appropriate because they are directly involved in key entrepreneurial activities, including business management, digital technology adoption, online marketing, customer communication, content creation, and social commerce. Their direct involvement in these activities enables them to provide informed assessments of their enterprises' level of digital transformation, social commerce activities, market expansion performance, and their own digital literacy.

A structured questionnaire was used for data collection through both online and offline distribution. Online questionnaires were disseminated through social media platforms, women's entrepreneurship communities, small-business networks, and online groups related to food businesses and local specialties. Printed questionnaires were also distributed directly to eligible women entrepreneurs and small-scale food businesses. Convenience sampling was employed to facilitate access to the target population, given the dispersed nature of small-scale food enterprises and the absence of a comprehensive sampling frame of young women entrepreneurs operating such businesses in Vietnam. A total of 227 valid questionnaires were obtained and retained for the final analysis after excluding incomplete or invalid responses. The respondents' demographic and business

profiles included characteristics such as age, education level, entrepreneurial experience, business ownership/management role, business operating period, number of employees, business location, type of food specialty, and primary market served. These characteristics were collected to describe the sample and provide contextual information about the participating enterprises.

The collected data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The analysis was conducted using SmartPLS to evaluate both the measurement and structural models. The measurement model was assessed in terms of indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. The structural model was subsequently evaluated to test the proposed direct, mediating, and moderating relationships among digital transformation, social commerce, market expansion performance and digital literacy.

IV. RESULTS AND DISCUSSION

Demographics of Respondents

Table 1 presents the demographic and business characteristics of the 227 young women entrepreneurs participating in the study.

Table 1. Demographics of Respondents (n = 227)

Characteristics		Frequency	Percentage
Age	18–25 years	52	22.9
	26–30 years	78	34.4
	31–35 years	63	27.7
	36–40 years	34	15.0
Education level	High school or below	31	13.7
	College/Bachelor's degree	151	66.5
	Postgraduate	45	19.8
Entrepreneurial experience	Less than 1 year	38	16.7
	1–3 years	72	31.8
	4–6 years	64	28.2
	More than 6 years	53	23.3
Business operating period	Less than 1 year	35	15.4
	1–3 years	69	30.4
	4–6 years	65	28.6
	More than 6 years	58	25.6
Number of employees	1–5 employees	121	53.3
	6–10 employees	63	27.7
	11–20 employees	29	12.8
	More than 20 employees	14	6.2
Primary market	Local/community market	74	32.6
	Other provinces/cities in Vietnam	91	40.1
	Both domestic and international markets	44	19.4
	Mainly international markets	18	7.9
Business type	Processed/local specialty foods	82	36.1
	Agricultural food products	51	22.5
	Traditional foods/confectionery	38	16.7
	Beverages	27	11.9
	Other food specialties	29	12.8
Business location	Northern Vietnam	72	31.7
	Central Vietnam	51	22.5
	Southern Vietnam	104	45.8

Regarding age, the largest group was respondents aged 26–30 years (34.4%), followed by those aged 31–35 years (27.8%) and 18–25 years (22.9%). Respondents aged 36–40 years accounted for 15.0% of the sample. Overall, the age distribution confirms that the sample predominantly consists of young women entrepreneurs, providing an appropriate basis for examining how younger female entrepreneurs leverage digital transformation and social commerce in expanding the market reach of local food specialties. In terms of education, most respondents held a college or bachelor's degree (66.5%), while 19.8% had postgraduate qualifications and 13.7% had a high school education or below. Regarding entrepreneurial experience, 31.7% had 1–3 years of experience, followed by 28.2% with 4–6 years and 23.3% with more than 6 years. Only 16.7% had less than one year of entrepreneurial experience.

Regarding business characteristics, 30.4% of enterprises had operated for 1–3 years, while 28.6% had operated for 4–6 years and 25.6% for more than 6 years. More than half of the enterprises (53.3%) employed between 1 and 5 employees, reflecting the small-scale nature of the businesses examined. In terms of market scope, 40.1% of respondents served customers in other provinces or cities in Vietnam, while 19.4% served both domestic and international markets and 7.9% mainly served international markets. For business type, processed and local specialty foods represented the largest category (36.1%), followed by agricultural food products (22.5%) and traditional foods or confectionery (16.7%). Geographically, 45.8% of respondents were located in Southern Vietnam, 31.7% in Northern Vietnam, and 22.5% in Central Vietnam. Overall, the sample represents young women entrepreneurs operating predominantly small-scale food businesses with diverse entrepreneurial experience and different levels of geographic market reach.

Scale Reliability and Validity Assessment

Prior to testing the structural relationships proposed in the research model, the measurement model was evaluated in terms of internal consistency reliability, convergent validity, and discriminant validity, following the two-step procedure recommended for variance-based structural equation modeling (Hair et al., 2019). Internal consistency reliability was assessed using Cronbach's Alpha, rho_A, and Composite Reliability (CR), with values equal to or greater than 0.70 considered acceptable (Hair et al., 2019; Nunnally, 1978). As reported in Table 2, all four constructs exceeded this threshold by a considerable margin, with Cronbach's Alpha ranging from 0.914 (Digital Literacy) to 0.961 (Social Commerce), and CR ranging from 0.940 to 0.971. Similarly, rho_A values for all constructs ranged from 0.915 to 0.968, closely aligning with the corresponding CR estimates and providing further support for the internal consistency of the measurement model (Dijkstra & Henseler, 2015). These results collectively indicate that the items used to measure Digital Transformation (DT), Social Commerce (SC), Market Expansion Performance (MEP), and Digital Literacy (DL) reliably captured their respective underlying constructs.

Table 2. Construct Reliability and Convergent Validity

Variables	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
DL	0.914	0.915	0.940	0.796
DT	0.927	0.946	0.948	0.819
MEP	0.926	0.942	0.949	0.824
SC	0.961	0.968	0.971	0.895

Source: *Data analysis by SmartPLS 3*

Convergent validity was evaluated using the Average Variance Extracted (AVE), with a recommended minimum threshold of 0.50 indicating that a construct explains at least half of the variance of its indicators (Fornell & Larcker, 1981). As shown in Table 2, the AVE values for all constructs ranged from 0.796 (DL) to 0.895 (SC), substantially exceeding the recommended cut-off. This finding confirms that convergent validity was well established across all constructs in the proposed model. It should nonetheless be noted that the reliability coefficients for several constructs, particularly Social Commerce (Cronbach's Alpha = 0.961; CR = 0.971), approached the upper boundary conventionally associated with potential indicator redundancy (Diamantopoulos et al., 2012; Hair et al., 2019). Although such elevated values do not compromise the validity of the measurement model, they suggest

that the items measuring this construct may exhibit a degree of conceptual overlap, which is acknowledged as a methodological consideration in the discussion of study limitations.

Table 3 and Table 4 additionally report two interaction terms, labelled Moderating Effect 1 and Moderating Effect 2, which were generated to test the moderating role of Digital Literacy proposed in H5a and H5b. Specifically, Moderating Effect 1 represents the interaction term between Digital Transformation and Digital Literacy (DT × DL), constructed to test the moderating effect of DL on the DT–SC relationship (H5a), whereas Moderating Effect 2 represents the interaction term between Social Commerce and Digital Literacy (SC × DL), constructed to test the moderating effect of DL on the SC–MEP relationship (H5b). Consistent with common practice in PLS-SEM, these interaction terms were generated using the two-stage approach, in which the standardized latent variable scores of the predictor and moderator constructs were multiplied to form a single-indicator interaction construct (Henseler & Chin, 2010). Because these terms are single-indicator interaction constructs rather than multi-item reflective constructs, their diagonal value of 1.000 in Table 3 reflects a mathematical artifact of the single-indicator specification rather than a substantive square-root-of-AVE estimate, and should therefore be interpreted accordingly rather than compared directly with the AVE-based diagonal values of the substantive constructs (Henseler & Chin, 2010). The correlation and HTMT values associated with these interaction terms remained within acceptable ranges relative to the substantive constructs, supporting their suitability for subsequent structural model testing.

Discriminant validity was assessed using two complementary criteria: the Fornell-Larcker criterion and the Heterotrait-Monotrait ratio (HTMT). The Fornell-Larcker criterion requires that the square root of a construct's AVE exceed its correlations with all other constructs in the model, thereby demonstrating that each construct shares more variance with its own indicators than with other constructs (Fornell & Larcker, 1981). As presented in Table 3, the square roots of AVE for DL (0.892), DT (0.905), MEP (0.908), and SC (0.946) were consistently higher than their respective inter-construct correlations, which ranged from 0.442 to 0.564. These results satisfy the Fornell-Larcker criterion and provide initial evidence that the four core constructs are empirically distinct from one another.

Table 3. Fornell-Larcker Criterion

	DL	DT	MEP	Moderating Effect 1	Moderating Effect 2	SC
DL	0.892					
DT	0.546	0.905				
MEP	0.442	0.508	0.908			
Moderating Effect 1	-0.456	-0.633	-0.317	1.000		
Moderating Effect 2	-0.553	-0.316	-0.168	0.492	1.000	
SC	0.552	0.564	0.454	-0.245	-0.392	0.946

Source: *Data analysis by SmartPLS 3*

Given the well-documented limitations of the Fornell-Larcker criterion in detecting discriminant validity issues, particularly under conditions of high construct correlation (Henseler et al., 2015), the HTMT ratio was additionally examined as a more robust and sensitive criterion. HTMT values below 0.90, or more conservatively below 0.85 when constructs are theoretically distinct, are considered indicative of adequate discriminant validity (Henseler et al., 2015). As shown in Table 4, all HTMT values among the four substantive constructs remained well below the conservative threshold of 0.85, ranging from 0.466 (SC–MEP) to 0.587 (SC–DL). The convergence of results across both the Fornell-Larcker criterion and the HTMT ratio provides robust and consistent evidence that DT, SC, MEP, and DL represent empirically distinct constructs within the proposed research model, thereby satisfying the requirements for discriminant validity (Fornell & Larcker, 1981; Henseler et al., 2015).

Table 4. Heterotrait-Monotrait Ratio (HTMT)

	DL	DT	MEP	Moderating Effect 1	Moderating Effect 2	SC
DL						
DT	0.585					

MEP	0.484	0.537				
Moderating Effect 1	0.478	0.652	0.333			
Moderating Effect 2	0.579	0.322	0.180	0.492		
SC	0.587	0.583	0.466	0.247	0.401	

Source: *Data analysis by SmartPLS 3*

Research Model Assessment and Discussion

Following the assessment of the measurement model, the structural model was evaluated to test the proposed direct, mediating, and moderating relationships (H1–H5b). The explanatory power of the model was first examined using the adjusted coefficient of determination (R^2), which indicates the proportion of variance in the endogenous constructs explained by their respective predictors (Hair et al., 2019). As reported in Table 5, the model explained 43.4% of the variance in Social Commerce (Adjusted R^2 = 0.434) and 31.9% of the variance in Market Expansion Performance (Adjusted R^2 = 0.319). According to the benchmark proposed by Chin (1998), these values can be interpreted as moderate levels of explanatory power for both endogenous constructs. This suggests that Digital Transformation and Digital Literacy, both directly and through their interaction with Social Commerce, jointly account for a substantial share of the variance in the social commerce activities of young women-led small-scale food enterprises (SFEs), and that these constructs, together with Social Commerce, meaningfully explain the variance in the market expansion outcomes achieved by these enterprises.

The structural paths were assessed using a bootstrapping procedure with 5,000 resamples, and significance was evaluated based on t-statistics and p-values (Hair et al., 2019). As presented in Table 5, all hypothesized relationships were statistically supported at the 0.05 level. Digital Transformation exerted a significant positive effect on Social Commerce (β = 0.515, t = 6.348, p < 0.001), supporting H1. Digital Transformation also exerted a significant direct effect on Market Expansion Performance (β = 0.306, t = 3.801, p < 0.001), supporting H2, while Social Commerce significantly and positively predicted Market Expansion Performance (β = 0.204, t = 2.788, p = 0.006), supporting H3. The indirect effect of Digital Transformation on Market Expansion Performance through Social Commerce was also statistically significant (β = 0.105, t = 2.459, p = 0.014), supporting H4 and confirming the mediating role of Social Commerce. Because the direct effect of DT on MEP (H2) remained significant alongside this indirect effect, the results indicate a pattern of complementary partial mediation, whereby Social Commerce transmits part, but not all, of the effect of Digital Transformation on market expansion outcomes (Nitzl et al., 2016).

Table 5. Structural Equation Modelling Results Estimates

Paths	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
DT -> SC	0.515	0.515	0.081	6.348	0.000
DT -> MEP	0.306	0.306	0.081	3.801	0.000
SC -> MEP	0.204	0.200	0.073	2.788	0.006
DT -> SC -> MEP	0.105	0.104	0.043	2.459	0.014
Moderating Effect 1 -> SC	0.186	0.188	0.054	3.477	0.001
Moderating Effect 2 -> MEP	0.131	0.129	0.061	2.147	0.032
DL -> MEP	0.240	0.239	0.074	3.235	0.001
DL -> SC	0.388	0.396	0.068	5.739	0.000
DL -> SC -> MEP	0.079	0.078	0.030	2.644	0.008

Moderating Effect 1 -> SC -> MEP	0.038	0.038	0.018	2.163	0.031
Adjusted R^2: SC = 0.434; MEP = 0.319					

Source: *Data analysis by SmartPLS 3*

Regarding the moderating role of Digital Literacy, Moderating Effect 1 (the DT × DL interaction term) had a significant positive effect on Social Commerce (β = 0.186, t = 3.477, p = 0.001), supporting H5a. Similarly, Moderating Effect 2 (the SC × DL interaction term) had a significant positive effect on Market Expansion Performance (β = 0.131, t = 2.147, p = 0.032), supporting H5b. In addition to its moderating role, Digital Literacy also exerted significant direct effects on both Social Commerce (β = 0.388, t = 5.739, p < 0.001) and Market Expansion Performance (β = 0.240, t = 3.235, p = 0.001), indicating that digital literacy functions not only as a boundary condition but also as an important capability in its own right. The indirect effects of DL on MEP through SC (β = 0.079, t = 2.644, p = 0.008) and of Moderating Effect 1 on MEP through SC (β = 0.038, t = 2.163, p = 0.031) were likewise significant, further reinforcing the central mediating position of Social Commerce within the proposed model.

The results confirm that Digital Transformation has a significant positive effect on Social Commerce (β = 0.515, p < 0.001), the strongest structural path in the model. This finding is consistent with prior evidence that SME entrepreneurs translate digital transformation into concrete organizational capabilities, including digital platform-based marketing and customer engagement practices (Li et al., 2018), and aligns with research demonstrating that social media adoption enables SMEs to develop richer, more interactive customer relationships (Ainin et al., 2015; Tajudeen et al., 2018). It also corroborates findings by Hwang et al. (2026), who show that SMEs adopting livestream commerce experience improved commerce-related performance, suggesting that firms with stronger underlying digital capabilities are better positioned to operationalize interactive, socially embedded selling formats. In the Vietnamese context, this result can be explained by the rapid diffusion of accessible social commerce infrastructure particularly Facebook, Zalo, and TikTok Shop, which has lowered the technical and financial barriers for micro and small food enterprises to establish an online presence (Reuters, 2024). For young women entrepreneurs operating SFEs, who typically lack the capital required for conventional advertising or physical retail expansion, digital transformation appears to manifest most immediately as the adoption of social commerce practices such as short-video content creation, livestreamed product demonstrations, and direct messaging with customers rather than as investment in formal e-commerce infrastructure. This is consistent with the national digital transformation orientation embedded in Decision No. 749/QĐ-TTg (Prime Minister of Vietnam, 2020), which emphasizes the digitalization of small-scale economic actors through accessible platform-based tools rather than large-scale enterprise systems.

Digital Transformation was also found to have a significant direct effect on Market Expansion Performance (β = 0.306, p < 0.001), independent of its indirect effect through Social Commerce. This finding supports the view that digital capabilities can directly expand a firm's market reach by reducing the informational and logistical barriers associated with physical distance (Li et al., 2018), and is consistent with evidence that digital platforms help SMEs overcome resource constraints in accessing markets beyond their immediate geographic base (Jin & Hurd, 2018). The result also aligns with more recent evidence linking digital capability and digital fluency to entrepreneurial performance outcomes among SMEs (Qadir et al., 2024). This direct effect is practically meaningful in the Vietnamese setting, where digital tools such as e-commerce marketplaces, digital payment systems, and logistics-integrated delivery platforms allow SFEs to fulfil orders from geographically distant provinces without necessarily building sustained social media engagement. For instance, a producer of a regional food specialty may gain access to consumers in Hanoi or Ho Chi Minh City simply through listing on a digital marketplace or through search-based discovery, independent of relational or content-driven social commerce activity. This suggests that, for SFEs producing OCOP-certified or well-recognized regional specialties, digital transformation alone can generate market expansion, even before more resource-intensive social commerce capabilities are fully developed.

The significant positive effect of Social Commerce on Market Expansion Performance (β = 0.204, p = 0.006) supports the theorized role of social commerce as a market-facing mechanism through which entrepreneurs convert consumer interaction into customer acquisition and geographic reach. This result is consistent with Hajli (2015) and Zhang and Benyoucef (2016), who argue that trust and relationship formation embedded in social commerce interactions facilitate purchase behavior, and echoes Hwang et al. (2026) finding that livestream commerce adoption significantly increases buyer numbers, revenue, and items sold among SMEs. It further supports He et al. (2026) and Zhang et al. (2024), who demonstrate that audience engagement and interactive product presentation drive sales performance in livestream commerce contexts. The relatively smaller magnitude of

this effect compared to H1 and H2, however, suggests that social commerce activity alone is a necessary but not sufficient condition for market expansion among Vietnamese SFEs. In practice, many young women entrepreneurs actively produce content and engage audiences on social platforms, yet this engagement often remains concentrated within existing local or regional follower bases due to platform algorithmic reach limitations, limited paid promotion budgets, and reliance on organic engagement. This is consistent with the argument that local specialty products, despite carrying strong cultural and place-based value, require sustained and strategically managed social commerce practices rather than intermittent content posting to convert engagement into meaningfully broader market reach (Al Omoush, 2024).

The significant indirect effect of Digital Transformation on Market Expansion Performance through Social Commerce (β = 0.105, p = 0.014), combined with the continued significance of the direct DT - MEP path, indicates that Social Commerce partially mediates this relationship. This finding empirically substantiates the theoretical proposition that digital capabilities alone are insufficient to generate market outcomes unless they are actively deployed through market-facing activities (Barney, 1991; Teece et al., 1997). It extends prior digital transformation research, which has largely examined DT's effect on SME performance without explicitly modeling the process through which digital capabilities are converted into consumer-facing engagement (Li et al., 2018), by empirically demonstrating social commerce as one such conversion mechanism. For Vietnamese SFEs, this partial mediation pattern reflects the dual pathway through which digital transformation contributes to market expansion: enterprises benefit both from direct digital infrastructure effects (e.g., marketplace access, digital payments) and from indirect, relationship-driven effects generated through storytelling, livestreaming, and consumer interaction on social platforms. This is particularly relevant for products whose value is rooted in cultural authenticity and geographic origin, where digital infrastructure alone may enable transactions but social commerce is often what communicates the meaning and story behind a local specialty, thereby converting consumer awareness into sustained demand from geographically and culturally distant customers.

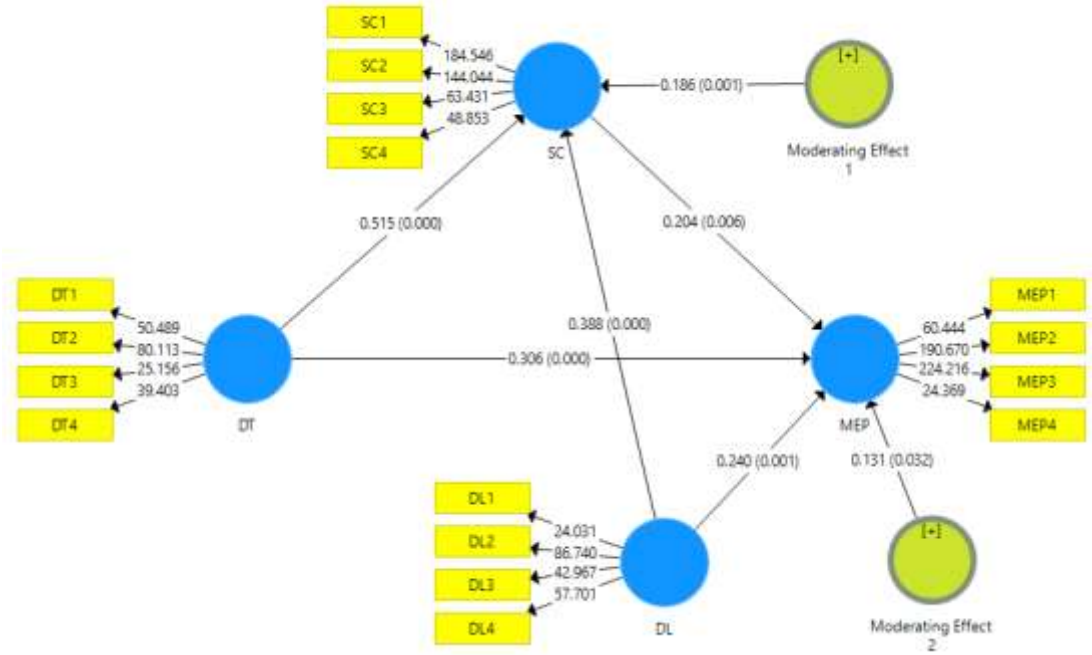


Figure 2. PLS Bootstrapping Model

Source: *Data analysis by SmartPLS 3*

The significant positive interaction effect (Moderating Effect 1 to SC: β = 0.186, p = 0.001) confirms that Digital Literacy strengthens the relationship between Digital Transformation and Social Commerce. This result supports the argument that digital resources generate greater value for market-facing activity when entrepreneurs possess the requisite skills to use them strategically (Coco et al., 2024; Raharjo et al., 2024), and is consistent with Olsson and Bernhard's (2021) finding that women entrepreneurs' continuous, self-directed digital skill development is central to their effective use of social media for business purposes. This finding has direct relevance to the Vietnamese policy context. Given that access to digital transformation resources and training may still be uneven among women entrepreneurs (Christodoulou et al., 2024), and that 97.2% of women-owned and women-led businesses in Vietnam remain at the micro or small scale (WISE, 2025), the results suggest that simply providing digital infrastructure or technology access without complementary digital skills development is unlikely to be sufficient

to translate digital transformation into effective social commerce practice. This underscores the practical relevance of recent policy initiatives such as Decision No. 2415/QĐ-TTg (Prime Minister of Vietnam, 2025), which explicitly links support for women's entrepreneurship to digital transformation capacity-building, and suggests that digital literacy training should be prioritized alongside technology provision in supporting young women-led SFEs.

The significant positive interaction effect (Moderating Effect 2 to MEP: $\beta = 0.131$, $p = 0.032$) confirms that Digital Literacy also strengthens the relationship between Social Commerce and Market Expansion Performance. This finding is consistent with Al Omoush (2024), who found that social commerce literacy significantly contributes to the successful adoption and business outcomes of social commerce among women entrepreneurs, and with Novela et al. (2024), who report that digital literacy is associated with market-related entrepreneurial outcomes such as market access and customer communication. Substantively, this result implies that the effectiveness with which social commerce activity is converted into market expansion depends on entrepreneurs' ability to interpret platform analytics, adapt content to different audience segments, and manage cross-regional or cross-border customer interactions-competencies that go beyond basic content posting. In the Vietnamese setting, this may help explain observed heterogeneity in market expansion outcomes among SFEs with seemingly similar levels of social media activity: entrepreneurs who possess stronger digital literacy may be more capable of using engagement data to refine targeting, identify emerging demand in new provinces or overseas Vietnamese diaspora markets, and sustain consumer relationships beyond the point of initial content exposure, thereby achieving more durable market expansion from otherwise comparable social commerce effort.

V. IMPLICATIONS AND CONCLUSION

Theoretical Contributions

This study makes several theoretical contributions to the digital entrepreneurship and social commerce literature. Firstly, by conceptualizing and empirically validating market expansion performance as the progressive broadening of customer base and geographic reach through digital channels rather than relying exclusively on conventional export-based indicators, this study extends the applicability of market expansion theory to micro and small enterprises whose internationalization pathways are digitally mediated rather than formally structured, thereby addressing a conceptual gap in the SME internationalization literature. Secondly, by empirically confirming social commerce as a partial mediator of the digital transformation–market expansion performance relationship, the study clarifies the mechanism through which digital capabilities are converted into market-facing outcomes, integrating previously disconnected streams of digital transformation research and social commerce research and providing empirical support for the combined application of the Resource-Based View and Dynamic Capabilities Theory that RBV explains digital transformation as a valuable capability base, while DCT explains Social Commerce as the dynamic process through which this base is mobilized, reconfigured, and directed toward emerging market opportunities. Thirdly, by demonstrating that Digital Literacy significantly moderates both the digital transformation–social commerce and social commerce–market expansion performance relationships, this study establishes digital literacy as a boundary condition that determines the effectiveness of capability deployment, extending Dynamic Capabilities Theory beyond the possession of digital resources to the individual-level competencies required to enact them. Finally, by situating this integrated framework within the context of young women-led small-scale food enterprises producing geographically and culturally embedded local specialties, the study extends RBV and DCT to an emerging-market, gender- and place-specific setting that has received limited attention in prior digital transformation and social commerce research, thereby broadening the theoretical scope of these frameworks beyond their conventional application to large firms and technology-intensive industries.

Practical Implications

This study offers practical implications for young women operating small-scale food enterprises, provincial authorities, and the national government, together with specific recommendations for strengthening digital literacy among entrepreneurs. The strong effect of digital transformation on social commerce, together with its direct effect on market expansion performance, suggests that digital investment yields the greatest return when directed toward customer-facing capabilities including communication, content creation, online transactions, and market intelligence rather than technology adoption for its own sake, an approach particularly suited to the resource constraints typical of SFEs. Because social commerce's effect on market expansion performance was significant but comparatively modest, entrepreneurs should treat it as a sustained, strategically managed practice rather than an isolated tactic, using short-form video, livestreaming, and digital storytelling to consistently communicate the geographic origin, traditional production practices, and cultural authenticity of local specialties to consumers beyond conventional retail channels. Since digital literacy significantly strengthened both the DT–SC and SC–MEP relationships,

entrepreneurs should also treat continuous digital-skill development, especially in content creation, platform analytics, and customer engagement as a core business priority, and pursue market growth incrementally, moving from local customers to other provinces and major cities before international markets.

Because digital literacy significantly strengthens both stages of the digital-transformation-to-market-expansion pathway, provincial authorities should move beyond simply providing digital infrastructure or platform access and instead deliver practical, business-oriented training in social media marketing, short-form video, livestream commerce, digital storytelling, online customer management, digital payment, and basic platform analytics, tailored to the actual needs of local food enterprises. Since social commerce's contribution to market expansion depends on entrepreneurs' ability to communicate authenticity and place-based meaning, authorities could also support standardized digital information on local products such as geographic origin, production methods, certifications, and cultural significance to provide reliable content for storytelling and strengthen the credibility of local-specialty promotion, complementing the existing OCOP framework. Finally, given that digital literacy also directly predicted market expansion beyond its moderating role, provincial authorities should facilitate connections among local enterprises, women's entrepreneurship organizations, universities, digital platforms, and business-support institutions, providing access to mentorship and market information, particularly relevant given that most women-owned and -led businesses in Vietnam remain micro or small.

Since digital literacy significantly amplifies the effectiveness of both digital transformation and social commerce while also independently predicting market expansion, national policy should shift emphasis from mere technology access toward effective digital capability utilization, building on the existing institutional foundation of the National Digital Transformation Programme, the OCOP programme, and the national scheme supporting women in entrepreneurship for 2026–2035, financial assistance and support schemes should prioritize women-led micro and small enterprises with concrete plans for using digital channels to reach new markets. Because digital transformation also exerted a significant direct effect on market expansion performance independent of social commerce, the government should further strengthen digital-commerce infrastructure as market access, transaction capabilities, logistics, and information systems, enabling small-scale producers of geographically rooted specialties to reach wider domestic and international markets without first building conventional distribution networks.

Finally, given that digital literacy significantly strengthens both the DT–SC and SC–MEP relationships while also directly predicting both outcomes, it should be treated as a core, cross-cutting component of entrepreneurship support rather than a supplementary skill, guided by four recommendations. Firstly, programs should be business-oriented rather than purely technical, focusing on how digital tools address concrete needs content creation, social media marketing, livestream commerce, customer management, digital payment, and basic data analysis. Secondly, training should be practice-based and specific to local-specialty businesses, having entrepreneurs develop actual product content, simulate livestreams, and interpret engagement data rather than relying on theoretical instruction. Thirdly, consistent with the Dynamic Capabilities perspective underpinning this study, digital-literacy development should move beyond one-off workshops toward continuous mentoring through partnerships among universities, experienced entrepreneurs, platforms, and women's entrepreneurship organizations. Fourthly, because social commerce's contribution to market expansion appears to depend on entrepreneurs' capacity to interpret consumer response, programs should emphasize digital evaluation and adaptation teaching entrepreneurs to assess content performance and adjust strategies accordingly. Finally, digital literacy should be embedded within existing women's entrepreneurship, SME development, and local-specialty support programs rather than delivered as a standalone agenda, allowing entrepreneurs to build digital competencies alongside the business and market-development support to which they are most directly linked.

Limitation and Future Research Directions

This study has several limitations that suggest directions for future research. The use of convenience sampling and a cross-sectional design limits the generalizability of the findings and precludes causal inference, future studies could employ probability sampling and longitudinal designs to validate the proposed relationships over time. Besides, data were collected solely from entrepreneurs' self-reported perceptions, which may introduce common method bias; future research could incorporate objective performance indicators (e.g., sales data, platform analytics) or multi-source data. Moreover, the study focused specifically on young women-led SFEs in Vietnam, so the findings may not generalize to other enterprise types, genders, or country contexts, comparative studies across sectors, demographic groups, or emerging markets would help test the boundary conditions of the model. The model also examined digital literacy as the sole moderating capability, future studies could explore additional boundary conditions, such as entrepreneurial orientation, social capital, or platform-specific characteristics, to provide a more comprehensive understanding of how digital capabilities translate into market expansion. Finally, given the rapid

evolution of social commerce formats (e.g., livestreaming, short-form video, AI-driven personalization), future research should revisit this model as digital platforms and consumer behaviors continue to change.

REFERENCES

1) Ainin, S., Parveen, F., Moghavvemi, S., Jaafar, N. I., & Shuib, N. L. M. (2015). Factors influencing the use of social media by SMEs and its performance outcomes. Industrial Management & Data Systems, 115(3), 570–588.
2) Al Omoush, K. S. (2024). Fostering women entrepreneurs: Exploring the drivers of successful social commerce business adoption among women. SAGE Open, 14(3).
3) Barney, J. (1991). Firm resources and sustained competitive advantage. Journal of Management, 17(1), 99–120.
4) Chin, W. W. (1998). The partial least squares approach to structural equation modeling. In G. A. Marcoulides (Ed.), Modern methods for business research (pp. 295–336). Lawrence Erlbaum Associates.
5) Coco, N., Colapinto, C., & Finotto, V. (2024). Fostering digital literacy among small and micro-enterprises: Digital transformation as an open and guided innovation process. R&D Management, 54(1), 118–136.
6) Diamantopoulos, A., Sarstedt, M., Fuchs, C., Wilczynski, P., & Kaiser, S. (2012). Guidelines for choosing between multi-item and single-item scales for construct measurement: A predictive validity perspective. Journal of the Academy of Marketing Science, 40(3), 434–449.
7) Dijkstra, T. K., & Henseler, J. (2015). Consistent partial least squares path modeling. MIS Quarterly, 39(2), 297–316.
8) Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research, 18(1), 39–50.
9) Forrest, J. Y.-L., Shao, L. P., McKinney, R. E., Jr., & Shao, D. (2021). Firm performance and market expansion from the point of view of resources. International Journal of Business and Systems Research, 15(4), 468–490.
10) Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. European Business Review, 31(1), 2–24.
11) Hajli, N. (2015). Social commerce constructs and consumers' intention to buy. International Journal of Information Management, 35(2), 183–191.
12) He, L., Li, X., Li, Y., Liu, Y., Zhang, N., & Zhou, X. (2026). Is more always better? The effect of audience size on sales performance in live streaming commerce: A multimethod study. Journal of Retailing and Consumer Services, 89, 104613.
13) Henseler, J., & Chin, W. W. (2010). A comparison of approaches for the estimation of interaction effects in partial least squares structural equation modeling. Structural Equation Modeling, 17(1), 82–109.
14) Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. Journal of the Academy of Marketing Science, 43(1), 115–135.
15) Hwang, J., Kim, D., Kim, A. J., & Kim, J. (2026). Small firms, big streams: How the characteristics of SMEs impact live streaming commerce performance. Telecommunications Policy, 50(1), 103085.
16) Jin, H., & Hurd, F. (2018). Exploring the impact of digital platforms on SME internationalization: New Zealand SMEs' use of the Alibaba platform for Chinese market entry. Journal of Asia-Pacific Business, 19(2), 72–95.
17) Li, L., Su, F., Zhang, W., & Mao, J.-Y. (2018). Digital transformation by SME entrepreneurs: A capability perspective. Information Systems Journal, 28(6), 1129–1157.
18) Nitzl, C., Roldan, J. L., & Cepeda, G. (2016). Mediation analysis in partial least squares path modeling: Helping researchers discuss more sophisticated models. Industrial Management & Data Systems, 116(9), 1849–1864.
19) Novela, Q. A. I., Sawitri, H. S. R., Riani, A. L., Istiqomah, Suprapti, A. R., & Harsono, M. (2024). Digital literacy on SME business performance and the mediating role of entrepreneurial skills. Jurnal Aplikasi Bisnis dan Manajemen, 10(3), 847.
20) Nunnally, J. C. (1978). Psychometric theory (2nd ed.). McGraw-Hill.
21) Olsson, A. K., & Bernhard, I. (2021). Keeping up the pace of digitalization in small businesses–Women entrepreneurs' knowledge and use of social media. International Journal of Entrepreneurial Behavior & Research, 27(2), 378–396.
22) Qadir, A., et al. (2024). Impact of digital capabilities on entrepreneurial performance in SMEs. Journal of Innovation & Knowledge, 9(4), 100609.
23) Raharjo, K., Afrianty, T. W., & Prakasa, Y. (2024). Digital literacy and business transformation: Social-cognitive learning perspectives in small business enterprises. Cogent Business & Management, 11(1), Article 2376282.
24) Scuotto, V., Nicotra, M., Del Giudice, M., Krueger, N., & Gregori, G. L. (2021). A microfoundational perspective on SMEs' growth in the digital transformation era. Journal of Business Research, 129, 382–392.

25) Spires, H. A., Paul, C. M., & Kerkhoff, S. N. (2019). Digital literacy for the 21st century. In M. Khosrow-Pour (Ed.), Advanced methodologies and technologies in library science, information management, and scholarly inquiry (pp. 579–588). IGI Global.
26) Tajudeen, F. P., Jaafar, N. I., & Ainin, S. (2018). Understanding the impact of social media usage among organizations. Information & Management, 55(3), 308–321.
27) Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. Strategic Management Journal, 18(7), 509–533.
28) Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. Journal of Business Research, 122, 889–901.
29) Zhang, K. Z. K., & Benyoucef, M. (2016). Consumer behavior in social commerce: A literature review. Decision Support Systems, 86, 95–108.

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