



Digital Marketplace Expansion and Sustainable Survival of Small Retail Enterprises in Punjab: Opportunities, Challenges, and Strategic Responses

¹Sneha Sirohi, ²Dr. Hemant Kumar Watts

Affiliation(s): ¹Research Scholar, Department of Management and Commerce, Guru Kashi University, Talwandi Sabo. Email: snehasirohi82@gmail.com.

Assistant Professor, Department of Management, Guru Kashi University, Talwandi Sabo. Email: heamantwatts3@gmail.com

DOI : <https://doi.org/10.5281/zenodo.23258081>

ARTICLE DETAILS	ABSTRACT
Research Paper Received: 20-07-2026 Accepted: 19-08-2026 Published: 25-09-2026 Keywords: <i>digital marketplace; small retail enterprises; Punjab; retail sustainability; e-commerce; digital transformation; strategic resilience</i>	Digital marketplaces are transforming Indian retail through platform intermediation, social commerce, mobile apps, integrated payment systems, data-driven marketing, and expedited delivery. The transformation for small merchants in Punjab has a dual effect: digital channels may enhance market reach and increase transaction efficiency, while also exacerbating price competitiveness pressures, platform reliance, compliance challenges, and logistical risks. This narrative and integrative analysis consolidates peer-reviewed research and credible secondary materials published mostly between 2020 and 2025 to analyse the consequences for kirana shops, family-owned businesses, rural vendors, women-led firms, and specialist local merchants. The evaluation organises information about digital potential, preparedness, capacity limitations, customer connections, platform governance, logistics, cybersecurity, and multidimensional sustainability. It contends that mere technological use does not guarantee survival. Outcomes depend on merchants' integration of cost-effective digital solutions with local trust, financial prudence, operational protocols, secure data procedures, and institutional backing. Punjab's robust connection and

Disclaimer: The opinions, interpretations, conclusions, recommendations, analyses, and statements expressed in this research article are solely those of the author(s) and do not reflect the views, policies, or positions of the Publisher, Chief Editor, Editors, Editorial Board, Reviewers, or their affiliated institutions. The author(s) are solely responsible for ensuring the originality, authenticity, and integrity of the manuscript and for ensuring that it is free from plagiarism, AI-generated content, copyright infringement, data falsification, and any other form of academic misconduct.



commercial culture may facilitate adoption; nevertheless, inconsistent rural infrastructure, fluctuating digital literacy, and the limited size of several companies might exacerbate capacity disparities. A gradual omnichannel approach—initiating with interoperable payments and communications, advancing to inventory and customer management, and judiciously including marketplace involvement—presents a more feasible plan than sudden reliance on a single platform. The study presents a cohesive conceptual framework whereby digital possibilities and challenges impact sustainable existence via eight adaptive capacities. Policy goals include local-language education, collaborative logistics, equitable platform governance, accessible finance, cybersecurity support, and focused aid for women-owned and rural retail businesses.

1. Introduction

The change of India's retail sector is progressively centered on interconnected customers, compatible digital payment systems, and platform-oriented exploration. The proliferation of the internet and smartphones has enhanced online and social commerce, while the Unified Payments Interface (UPI) has reduced transactional friction for micro-merchants. Official figures indicate significant development in connection and merchant acceptance, despite ongoing rural-urban disparities (Department of Telecommunications, 2025; National Payments Corporation of India [NPCI], 2025; Telecom Regulatory Authority of India [TRAI], 2024). The epidemic further normalised remote ordering, contactless payment, and digital customer service (Guo et al., 2020; Papadopoulos et al., 2020; UN Trade and Development [UNCTAD], 2021).

Punjab is a notable regional context due to its economy, which integrates agricultural connections, densely populated market cities, consumer hubs, and strong family business traditions. Local shops provide not just merchandise but also informal finance, product guidance, emergency access, and social trust. State evaluations reveal that services and commerce continue to be vital for employment and economic activity, notwithstanding budgetary limitations and inconsistent structural reform (Government of Punjab, 2024; NITI Aayog, 2025).

Digitalisation is hence not only a competition between online and physical retail. Marketplaces may enhance outreach, streamline payment processes, optimise inventory management, and link companies with broader supplier networks. However, they may also transfer negotiating power to middlemen who manage rankings, commissions, consumer data, refunds, and fulfilment. Research on SMEs indicates that advantages are contingent upon



complementary resources, organisational preparedness, and strategic competencies, rather than only on technology acquisition (Eller et al., 2020; Matarazzo et al., 2021; Pingali et al., 2023).

This report examines the developing problems and strategic options impacting the sustained viability of small retail businesses in Punjab. It employs a comprehensive approach that amalgamates technological uptake, resource capabilities, institutional circumstances, and sustainability. The contribution is threefold: it contextualises international and Indian evidence within Punjab's urban, semi-urban, and rural retail environments; it differentiates between short-term digital adoption and long-term sustainable viability; and it presents a framework that connects marketplace expansion to retail outcomes via adaptive capabilities.

2. Evaluation Methodology

The report employs a narrative and integrative review methodology reliant only on secondary evidence. This methodology is suitable since the study subject encompasses several disciplines—retail management, information systems, entrepreneurship, regional development, public policy, and sustainability—and aims for conceptual integration rather than aggregated statistical impact estimate. The review does not purport to be a systematic review, PRISMA review, or meta-analysis.

Searches were organised around combinations of phrases like 'digital marketplace', 'small retailer', 'kirana', 'MSME digitalisation', 'e-commerce adoption', 'social commerce', 'digital payments', 'omnichannel retail', 'platform reliance', 'retail resilience', 'Punjab', and 'India'. Peer-reviewed literature was sourced from Scopus, Web of Science, Google Scholar, ScienceDirect, Emerald Insight, SpringerLink, and other publisher databases. Institutional evidence was sourced from the Reserve Bank of India (RBI), Ministry of Micro, Small and Medium Enterprises (MSME), National Payments Corporation of India (NPCI), Telecom Regulatory Authority of India (TRAI), Department of Telecommunications, Open Network for Digital Commerce (ONDC), Small Industries Development Bank of India (SIDBI), Micro Units Development and Refinance Agency (MUDRA), Organisation for Economic Co-operation and Development (OECD), United Nations Conference on Trade and Development (UNCTAD), NITI Aayog, and the Government of Punjab.

Emphasis was placed on English-language articles from 2020 to 2025 on SME digital transformation, platforms, payments, logistics, resilience, or sustainability. Previous works were preserved just for fundamental constructs such technological adoption, dissemination, the technological-Organization-Environment framework, the Resource-Based View, institutional theory, and dynamic capabilities. Excluded were unverified figures, promotional assertions without methodological transparency, duplicates, and research that were contextually irrelevant. Evidence was categorised into opportunities, impediments, sustainable aspects, strategic approaches, and institutional support. The limited availability of Punjab-specific scholarships precludes broad generalisation and underscores the need for district-level primary research.

3. Theoretical Framework

A digital marketplace facilitates the electronic coordination of product discovery, comparison, ordering, payment, reputation, and fulfilment among buyers, sellers, and service providers. Platforms regulate participation via technological standards, algorithms, regulations, and data accessibility. Social commerce incorporates transactions inside messaging or social media exchanges, whereas omnichannel retail synchronises physical shopfronts with digital ordering, delivery, collection, and post-purchase services. Digital transformation transcends mere task digitisation, as it alters customer interactions, operational processes, value propositions, and business models (Kraus et al., 2021; Verhoef et al., 2021).

Theories of technology adoption elucidate the disparities in uptake. The Technology Acceptance Model highlights utility and user-friendliness (Davis, 1989); the Unified Theory of Acceptance and Use of Technology incorporates social impact and enabling factors (Venkatesh et al., 2003). The Diffusion of Innovation theory emphasises advantage, compatibility, and complexity (Rogers, 2003), while the TOE framework links technology with organisational resources and environmental forces (Tornatzky & Fleischer, 1990). A Punjabi retailer's option may therefore simultaneously reflect app simplicity, familial and staff competence, consumer desire, connection, and competitive pressure.

The Resource-Based View elucidates performance disparities via important and hard-to-replicate resources, such as local expertise, trust, and supplier connections (Barney, 1991). Dynamic capabilities enhance this argument by highlighting the capacity to detect changes, capitalise on opportunities, and reorganise processes (Teece, 2007). Institutional theory incorporates regulatory, normative, and mimetic pressures: merchants may use digital payments due to consumer expectations, competition utilisation of QR codes, and governmental promotion of formalisation (DiMaggio & Powell, 1983). Collectively, these viewpoints indicate that sustained survival occurs when digital technologies enhance—not replace—the retailer's relational and operational advantages.

Table 1. Traditional retail and digitally enabled marketplace retail

Dimension	Traditional small retail	Digitally enabled marketplace retail	Strategic implication
Customer access	Primarily local footfall and word of mouth	Search, maps, messaging, social media and platform discovery	Digital visibility can widen reach but increases comparability.
Pricing	Relationship-based and locally observed	Highly transparent, promotion-driven and algorithmically compared	Competing only on price can erode margins.

Dimension	Traditional small retail	Digitally enabled marketplace retail	Strategic implication
Transactions	Cash, informal credit and manual records	UPI, cards, digital ledgers and platform settlement	Payment convenience improves, but reconciliation and fraud controls become necessary.
Inventory	Experience-based replenishment	Billing, catalogue and inventory applications	Data can reduce stock-outs when records are maintained accurately.
Customer relationship	Personal knowledge and community trust	Ratings, chat, loyalty data and remote service	Hybrid models can combine trust with convenience.
Fulfilment	Store purchase or local informal delivery	Platform or retailer-managed delivery, returns and tracking	Service radius expands, alongside packaging and reverse-logistics costs.
Governance	Owner discretion and local norms	Platform terms, algorithms, data rules and formal compliance	Retailers need contractual and digital literacy.

Note. Synthesised from Verhoef et al. (2021), Matarazzo et al. (2021), OECD (2021) and ONDC (2024).

4. Significance of Small Retail Enterprises in Punjab

Small stores facilitate self-employment, augment family income, provide entry-level work opportunities, and promote local economic circulation. They link customers with major brands and local producers, cater to communities outside of structured retail, and provide adaptable quantities and informal finance options. Owner engagement facilitates swift resolution of issues, whilst community integration offers insights on preferences and income patterns. Women-led home and micro-retail enterprises may integrate business with domestic duties, yet limitations in size, mobility, and digital visibility may persist.

These companies also support local ecosystems for apparel, footwear, culinary products, handicrafts, religious items, and agricultural supplies. Their survival therefore has economic, social, and cultural significance. However, constrained operating capital, restricted market reach, diminished negotiating power, and informal documentation hinder investment. National evidence highlights the sector's contribution to employment and lists financing, formalisation, and digital competence as critical goals for competitiveness (Ministry of Micro, Small and Medium Enterprises, 2025; Small Industries Development Bank of India [SIDBI], 2025).

Table 2. Major digital opportunities for small retailers

Opportunity	Mechanism	Potential value in Punjab	Precondition
Digital payments	Instant QR-based acceptance and transaction records	Convenience, reduced cash handling and improved documentation	Fraud awareness and daily reconciliation
Local online visibility	Maps, social media and messaging catalogues	Customer discovery across neighbourhoods and nearby villages	Accurate listings and responsive communication
Omnichannel fulfilment	Order remotely; collect or receive locally	Convenience without abandoning store relationships	Reliable stock information and delivery rules
Inventory digitisation	Billing and stock applications	Lower stock-outs and better seasonal planning	Consistent data entry
Marketplace participation	Access through platforms or open networks	Wider reach for specialised and local products	Margin analysis, catalogue quality and service capacity
Digital finance	Transaction trails and online applications	Potentially stronger credit visibility	Formal records and responsible borrowing
Women and rural enterprise	Home-based catalogues and shared logistics	Participation beyond immediate footfall	Training, safety, devices and family/institutional support

Note. Based on OECD (2021), MUDRA (2024), Ministry of MSME (2025), NPCI (2025) and Philbin et al. (2022).

Table 3. Key challenges and likely effects on small retail enterprises

Challenge	Immediate effect	Longer-term risk	Most exposed retailers
Limited digital literacy	Errors, slow response and dependence on others	Low adoption quality and vulnerability to fraud	Older owners and first-time users

Challenge	Immediate effect	Longer-term risk	Most exposed retailers
High channel costs	Reduced contribution margin	Cash-flow stress and unsustainable growth	Low-value and high-return categories
Platform competition	Lower footfall and price pressure	Commoditisation and exit	Standardised branded-goods sellers
Algorithmic dependency	Unstable visibility and sales	Loss of bargaining power and customer ownership	Marketplace-dependent sellers
Weak logistics	Delays, cancellations and damaged goods	Poor ratings and limited-service radius	Rural and low-density markets
Cyber and privacy risk	Financial loss or data exposure	Erosion of trust and regulatory liability	All digitally active retailers
Compliance complexity	Time and advisory costs	Avoidance of formal channels	Micro and informal enterprises
Environmental burden	More packaging, trips and returns	Higher cost and reputational pressure	Delivery-intensive categories

Note. Synthesised from Eller et al. (2020), Rupeika-Apoga and Petrovska (2022), Pingali et al. (2023), Ministry of Electronics and Information Technology (2023) and OECD (2023).

5. Sustainable Survival of Small Retail Enterprises

Sustainable survival is the capacity to remain economically viable while preserving operational continuity, technological adaptability, social value, environmental responsibility and institutional legitimacy. It requires positive margins and manageable debt; reliable procurement, inventory and fulfilment; secure systems that staff can operate; fair employment and trusted customer relationships; efficient packaging, energy and transport; and credible compliance and support relationships. These dimensions are interdependent rather than separate performance goals.

Digital transformation strengthens survival when it expands options and organisational learning; it weakens survival when it creates high fixed costs, fragile dependencies, or price wars. Evidence from the pandemic shows stronger outcomes where SMEs reconfigured business models and combined digital tools with agility (Klein &

Todesco, 2021; Mandviwalla & Flanagan, 2021; Priyono et al., 2020). Punjab's trust-based family enterprises can build on relational resilience while improving formal records, delegation and digital capability.

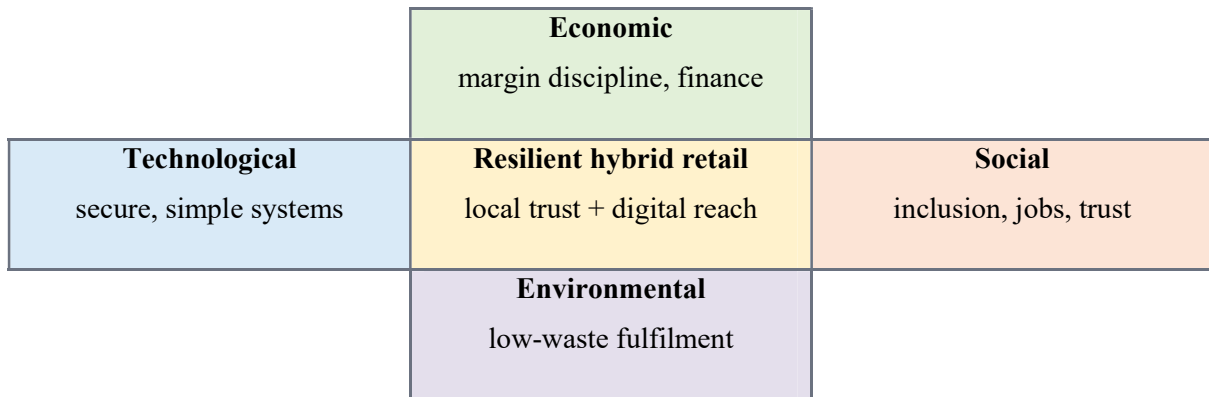


Figure 3. Integrated sustainability strategy model for small retailers

6. Strategic Responses for Small Retailers

6.1 Phased Digital Adoption

A staged pathway reduces financial and learning risk. Retailers can begin with a separate business bank account, UPI acceptance, verified map presence and WhatsApp Business. The next stage introduces digital billing, basic inventory and regular backups. Only after operational data are reliable should the business add a catalogue, social-media promotion, local delivery or external marketplace. Kahveci (2025) similarly frames SME transformation as a cycle of awareness, strategy, adoption and continuous improvement rather than a one-time technology purchase.

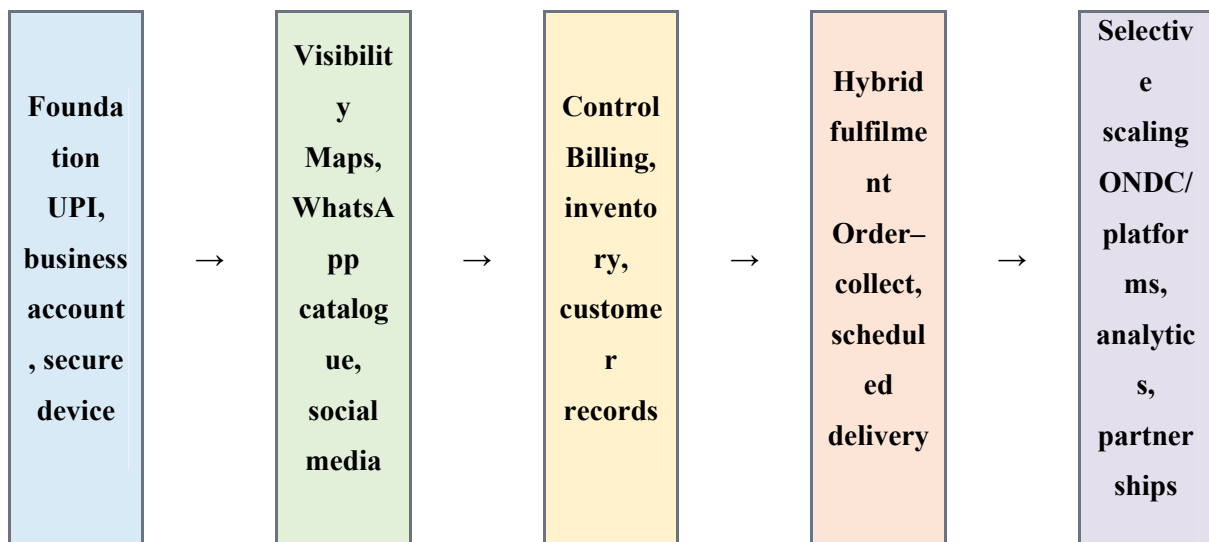


Figure 2. Digital adaptation pathway for small retail enterprises



6.2 Omnichannel Retailing

The most viable approach for several Punjabi shops is hybrid rather than just online. Customers may explore or place orders online, but collection, consultation, trials, credit, and after-sales care are conducted locally. Click-and-collect minimises delivery expenses, whereas scheduled neighbourhood delivery maintains convenience without guaranteeing unprofitable immediate service. Omnichannel design must provide uniformity in pricing, inventory data, and service policies across both physical and digital platforms.

6.3 Social Commerce and Local Digital Marketing

WhatsApp groups, brief films, and messages in local languages may be more suitable than costly marketplace advertising. The content must highlight new inventory, authenticity, seasonal requirements, product demonstrations, and community significance. Retailers must get agreement, refrain from excessive communications, and evaluate reactions instead of correlating follower numbers with sales. Evidence from social media indicates that active participation may facilitate continuity; nevertheless, performance is contingent upon disciplined content and customer service (Olanrewaju et al., 2020; Syaifullah et al., 2021).

6.4 Differentiation of Customer Relationships

Personalised service, product expertise, adaptable volumes, reliable guidance, and accountable informal credit are challenging for remote platforms to replicate. Digital tools must document choices and reminders while preserving dignity and privacy. A shop may use purchase history to facilitate repeat transactions, inform consumers of relevant items, and address concerns promptly. The objective is to enhance relationships, not to engage in indiscriminate data accumulation.

6.5 Cooperative and Cluster-Based Frameworks

Retail organisations and local clusters may collaborate on catalogue services, warehousing, package procurement, training, and delivery routes. Collective procurement enhances negotiating leverage, and a shared pickup or consolidation location might optimise rural logistics. This collaboration needs clear cost distribution, service benchmarks, and governance; otherwise, free-riding and distrust may overshadow the advantages of scale.

6.6 Digital Competence, Financial Resources, and Institutional Assistance

Training must be tailored to particular categories and conducted via demonstrations in Punjabi and Hindi. Modules must include payment reconciliation, margin calculation, catalogue production, cybersecurity practices, consumer permission, platform agreements, and return processes. Finance needs to be associated with a definite digital investment strategy instead of indiscriminate borrowing. MUDRA, SIDBI, banks, and cooperative institutions may finance equipment, software, and operating capital, while universities and incubation centers can provide supervised digital clinics (MUDRA, 2024; SIDBI, 2025).

6.7 Engagement in ONDC and Alternative Platforms

Retailers want to evaluate ONDC or other marketplaces using a channel-profitability checklist that includes anticipated order value, commission or network costs, packing, payment settlement duration, cancellation and return rates, delivery obligations, and access to customer data. An open-network design may enhance the discoverability and selection of service providers; nonetheless, success remains contingent upon the quality of the catalogue and its fulfilment. A trial program with a restricted selection is preferable than instant comprehensive inventory exposure.

6.8 Sustainable Retail and Business Model Innovation

Retailers may save packing by using reusable bags, consolidating orders, and implementing click-and-collect services; mitigate inventory waste via demand tracking; and procure locally where quality and cost allow. Business model alternatives include subscriptions for regular household items, prepaid local delivery memberships, specialty product curation, and direct partnerships with regional producers. These strategies need to enhance predictable income and local value generation instead of just increasing digital volume.

Table 4. Linking challenges with strategic responses

Challenge	Retailer-level response	Collective or policy response	Performance indicator
Low digital capability	Adopt one tool at a time; document routines	Local-language digital clinics	Active use, error rate and response time
Margin pressure	Calculate channel-level contribution margin	Transparent fee disclosure and advisory support	Net margin per channel
Weak visibility	Maintain accurate maps, catalogue and reviews	Shared local marketplace or cluster promotion	Qualified enquiries and repeat orders
Logistics cost	Click-and-collect and scheduled delivery	Shared routes, pickup points and local logistics partners	Cost per fulfilled order
Platform dependency	Diversify channels and retain customer consent	Fair ranking, grievance and portability rules	Share of sales by channel

Challenge	Retailer-level response	Collective or policy response	Performance indicator
Cyber risk	Separate accounts, alerts, access control and backups	Cyber helpline and training	Fraud incidents and recovery time
Packaging and waste	Reusable packaging and inventory discipline	Municipal recovery and common packaging standards	Packaging per order and write-offs

Note. Strategic synthesis informed by OECD (2021), ONDC (2024), Ministry of MSME (2025), Kahveci (2025) and Melkonyan et al. (2020).

10. Role of Government and Policy Institutions

The primary objective of the government is not to compel every shop to use a platform, but to mitigate capacity and coordination deficiencies. The Ministry of MSME may enhance TEAM and RAMP-associated assistance for cataloguing, account management, packaging, and onboarding. Industries, local government, and skill development institutes in Punjab might build district retail digitalisation centers linked with market associations. Banks, SIDBI, and cooperatives may provide small-scale financing linked to validated business plans and straightforward cash-flow evaluations.

Infrastructure policy must focus on enhancing rural broadband quality, ensuring stable energy, improving processes, and providing inexpensive logistics. Regulatory policy must advocate for clear platform costs, accessible grievance procedures, equitable account suspension protocols, and appropriate utilisation of seller data. Consumer and data protection responsibilities must to be converted into straightforward checklists. Educational institutions may facilitate supervised student projects that assist merchants in establishing catalogues, inventory systems, and cybersecurity measures, while producing locally relevant research.

Policy must also acknowledge diversity. Women-led firms may need secure training schedules, access to devices, mentorship, and financial independence. Rural retailers may benefit more from messaging, digital transactions, and collaborative delivery than from exposure on larger marketplaces. Traditional product vendors may need assistance with branding, photography, and intellectual property. Programs should thus be assessed based on continuous sales quality, profit margin, digital autonomy, and longevity—not only the quantity of enterprises integrated.

7. Proposed Conceptual Framework

The framework treats digital marketplace expansion as an external force producing both opportunities and challenges. Opportunities include reach, payment convenience, data, formalisation and supply coordination; challenges include price pressure, channel costs, platform control, logistics, cybersecurity, and compliance. Their

effect on survival is mediated or moderated by eight capabilities: digital literacy, financial capability, technological readiness, entrepreneurial orientation, customer relationship strength, institutional support, logistics capability, and strategic adaptability.

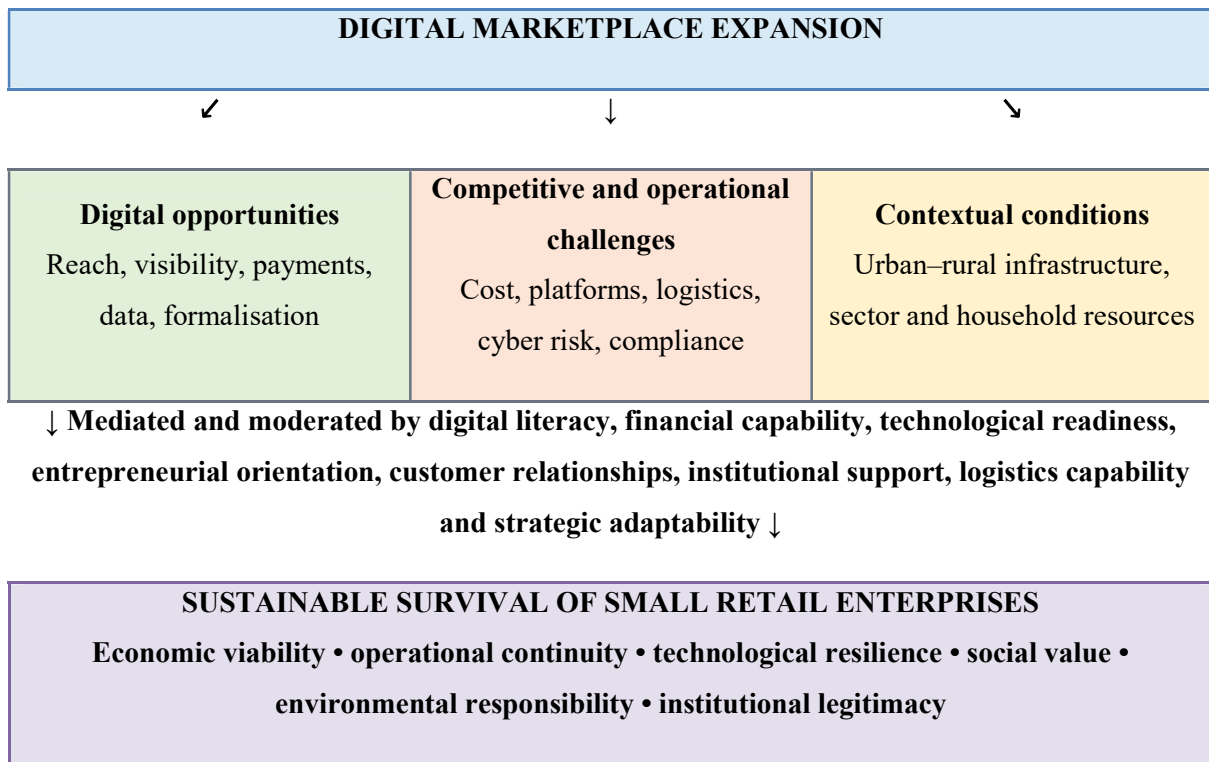


Figure 1. Proposed conceptual framework for digital marketplace expansion and sustainable retail survival

The framework predicts that two retailers facing the same platform environment can experience different outcomes. A digitally literate retailer with disciplined margins and strong customer relationships may use platforms selectively and retain autonomy. A resource-constrained retailer may gain sales but become dependent on discounts, external fulfilment and opaque algorithms. The framework therefore integrates acceptance theories with TOE, the Resource-Based View and dynamic capabilities. Institutional support shapes both access and governance, while sustainability is assessed through economic, operational, technological, social, environmental and institutional outcomes.

Table 6. Constructs in the proposed conceptual framework

Construct	Definition	Illustrative indicators	Expected role
Digital marketplace expansion	Growth of platform, social-commerce, payment and delivery interfaces	Digital customer demand, platform availability, payment usage	External driver



Construct	Definition	Illustrative indicators	Expected role
Digital opportunities	Potential gains from reach, efficiency, data and formalisation	New enquiries, online sales, lower cash handling	Positive pathway
Competitive/operational challenges	Costs and risks created by digital competition and intermediation	Fees, returns, fulfilment cost, fraud, ranking volatility	Negative pathway
Digital literacy	Ability to operate, evaluate and secure digital tools	Independent use, error control, cyber awareness	Mediator/moderator
Financial capability	Ability to budget, price, reconcile and finance adoption	Channel margin, cash flow, record quality	Mediator/moderator
Technological readiness	Availability of devices, connectivity, systems and support	Reliable access, integration and maintenance	Mediator/moderator
Entrepreneurial orientation	Willingness to experiment, learn and act proactively	Pilots, innovation and measured risk-taking	Mediator/moderator
Customer relationship strength	Trust, knowledge and service continuity	Retention, referrals, complaint resolution	Protective capability
Institutional support	Accessible finance, training, infrastructure and fair governance	Scheme use, advisory access and dispute resolution	Contextual enabler
Logistics capability	Ability to fulfil and manage returns economically	On-time delivery, cost/order, return rate	Operational mediator

Construct	Definition	Illustrative indicators	Expected role
Strategic adaptability	Ability to sense, select and reconfigure channels	Channel mix, speed of adjustment, learning routines	Dynamic capability
Sustainable survival	Long-term viability across six sustainability dimensions	Margin, continuity, resilience, inclusion, waste and compliance	Outcome

Note. Framework developed from Davis (1989), Tornatzky and Fleischer (1990), Barney (1991), Teece (2007), Eller et al. (2020), Matarazzo et al. (2021) and Pingali et al. (2023).

8. Discussion

The research demonstrates a fundamental contradiction: digitisation reduces the technological costs of market entrance while elevating the organisational standards for dependable competition. While generating a QR code or social media profile is straightforward, a lucrative multichannel company requires precise inventory management, swift communication, fraud prevention measures, delivery protocols, and channel accounting. Consequently, adoption may rise without corresponding enhancements in productivity or survival rates. The OECD (2021) and Rupeika-Apoga and Petrovska (2022) similarly differentiate connection from transformational capacity.

Digitalisation generates value when it enhances local resources. Small merchants in Punjab often exhibit client familiarity, trust, supplier acumen, advantageous location, and adaptability. Omnichannel solutions may enhance these assets by enabling searchability, remote ordering, collection, and local delivery. Retailers who compete only on platform pricing and product variety operate in a realm where bigger companies possess inherent structural advantages. The strategic inquiry is whether client issues should be addressed digitally and which relationship advantages should persist in the physical business.

The gap between urban and rural areas is more intricate than only a matter of access disparity. Urban stores have formidable competition from quick-commerce and organised retail, while they gain advantages from delivery density and specialist service suppliers. Rural shops may have less platform competition and enhanced local ties, but they might suffer elevated fulfilment costs and training limitations. Semi-urban markets provide a crucial intermediary position where messaging-based ordering, pickup, and scheduled delivery may expand effectively. The Punjab policy must endorse unique adoption frameworks for various regions.

The framework emphasises the dual function of institutions. Formalisation, consumer protection, and data regulations may enhance trust; yet, ineffective communication of compliance may deter micro-enterprises. ONDC has



the potential to broaden access; nevertheless, it cannot independently establish retail capabilities or generate lucrative demand. TEAM and like programs are hence most beneficial when they finance education, catalogue quality, logistics, and account maintenance, rather than just tallying initial registrations. Institutional theory posits that adoption only motivated by mimetic pressure may be superficial; enduring use requires perceived utility, competence, and economic compatibility.

Sustainability must be included before achieving digital scale, rather than being appended after. Expedited shipping, refunds, and packing might externalise expenses that small shops are unable to bear. Retailers need to emphasise integrated local fulfilment, sustainable packaging, and categories with little returns. Economic and environmental disciplines mutually support one another when diminished missed deliveries, precise inventory, and click-and-collect services decrease both costs and trash. This cohesive strategy integrates digital transformation with resilience instead of prioritising development at any cost.

9. Future Research Directions

Future research should establish a district-stratified sample framework including kirana, clothes, footwear, electronics, agricultural inputs, handicrafts, and women-led home retail. Structural equation modelling might evaluate the hypothesised capacity paths, while longitudinal studies could differentiate between adoption, sustained usage, and survival. Comparative analyses of platforms, ONDC, social commerce, and independent omnichannel retailers may assess overall channel expenditures. Qualitative research should investigate familial decision-making, informal credit systems, and consumer trust. Sustainability-performance evaluations must include profit, workload, employment, packaging, transportation, and waste management. Program assessments need to assess maintained competency and profitability six to twelve months post-training, rather than immediately upon onboarding.

10. Implications for Management

Every digital channel must be administered as a distinct business entity, characterised by discernible income, changeable costs, settlement duration, workload, and risk. A reliable sequence comprises safe payments, precise visibility, operational oversight, hybrid fulfilment, and selective scalability. Family enterprises must to record passwords, supplier connections, and processes to ensure that competence does not rely on a single individual. Associations may organise training and logistics; platforms must to reveal expenses and provide accessible dispute resolution procedures. Performance should be evaluated based on recurring customers, contribution margin, cash conversion, delivery dependability, and reduced vulnerability—not only on total online sales.

11. Implications for Policy

Punjab needs a location-specific retail strategy that integrates connections, skills, financing, logistics, and equitable market governance. District digital retail centers have to provide diagnostics in local languages and practical assistance. Vouchers may subsidise expenses related to invoicing, cataloging, and cybersecurity technologies, while



credit guarantees might assist with legitimate working-capital requirements. Shared pickup locations and routes warrant rural trial programs. Participation in the platform and ONDC must include clear costs, protection of seller data, and prompt resolution of grievances. Women-owned businesses need specialised access to devices, mentorship, secure training, and financial resources. Evaluation must include active utilisation, profitability, and sustainability, rather than only focusing on onboarding.

12. Conclusion

The rise of the digital marketplace is neither an inevitable danger nor a certain salvation for small merchants in Punjab. It alters the competitive landscape by prioritising convenience, visibility, payment efficiency, and service responsiveness, while also subjecting merchants to pricing transparency, platform dominance, fulfilment expenses, and cyber threats. Sustainable survival relies on strategic complementarity: digital technologies must enhance local trust, category expertise, adaptable service, and community engagement.

A sequential omnichannel strategy provides the most robust approach. Retailers must construct robust digital infrastructures, enhance visibility and documentation, create feasible fulfilment strategies, and strategically engage with broader networks. Institutions need to bridge capacity gaps via practical training, accessible financing, collaborative logistics, equitable governance, and focused assistance for rural and women-led firms. The suggested architecture positions eight adaptive capacities between market growth and survival. Policy should aim for resilient, inclusive, and ecologically sustainable change rather than digitisation for its own merit.

References

- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120. <https://doi.org/10.1177/014920639101700108>
- Boysen, N., Fedtke, S., & Schwerdfeger, S. (2021). Last-mile delivery concepts: A survey from an operational research perspective. *OR Spectrum*, 43, 1–58. <https://doi.org/10.1007/s00291-020-00607-8>
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. <https://doi.org/10.2307/249008>
- Department of Telecommunications. (2025). *Telecom statistics India 2024*. Government of India. <https://www.dot.gov.in/static/uploads/2025/07/f44e3a674c85aa98cd6fa881e4462b57.pdf>
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147–160. <https://doi.org/10.2307/2095101>
- Eller, R., Alford, P., Kallmünzer, A., & Peters, M. (2020). Antecedents, consequences, and challenges of small and medium-sized enterprise digitalization. *Journal of Business Research*, 112, 119–127. <https://doi.org/10.1016/j.jbusres.2020.03.004>



- Government of Punjab. (2024). *Punjab economic survey 2023–24*. Department of Finance. <https://investpunjab.gov.in/assets/docs/EconomicSurvey-2023-24.pdf>
- Guo, H., Yang, Z., Huang, R., & Guo, A. (2020). The digitalization and public crisis responses of small and medium enterprises: Implications from a COVID-19 survey. *Frontiers of Business Research in China*, 14, Article 19. <https://doi.org/10.1186/s11782-020-00087-1>
- Hafeez, S., Shahzad, K., Helo, P., & Mubarak, M. F. (2025). Knowledge management and SMEs' digital transformation: A systematic literature review and future research agenda. *Journal of Innovation & Knowledge*, 10, 100728. <https://doi.org/10.1016/j.jik.2025.100728>
- Kahveci, E. (2025). Digital transformation in SMEs: Enablers, interconnections, and a framework for sustainable competitive advantage. *Administrative Sciences*, 15(3), 107. <https://doi.org/10.3390/admsci15030107>
- Klein, V. B., & Todesco, J. L. (2021). COVID-19 crisis and SMEs responses: The role of digital transformation. *Knowledge and Process Management*, 28(2), 117–133. <https://doi.org/10.1002/kpm.1660>
- Kraus, S., Jones, P., Kailer, N., Weinmann, A., Chaparro-Banegas, N., & Roig-Tierno, N. (2021). Digital transformation: An overview of the current state of the art of research. *SAGE Open*, 11(3). <https://doi.org/10.1177/21582440211047576>
- Mandviwalla, M., & Flanagan, R. (2021). Small business digital transformation in the context of the pandemic. *European Journal of Information Systems*, 30(4), 359–375. <https://doi.org/10.1080/0960085X.2021.1891004>
- Maroufkhani, P., Wagner, R., & Wan Ismail, W. K. (2022). Digital transformation in SMEs: A systematic literature review. *Sustainability*, 14(3), 1493. <https://doi.org/10.3390/su14031493>
- Matarazzo, M., Penco, L., Profumo, G., & Quaglia, R. (2021). Digital transformation and customer value creation in Made in Italy SMEs: A dynamic capabilities perspective. *Journal of Business Research*, 123, 642–656. <https://doi.org/10.1016/j.jbusres.2020.10.033>
- Melkonyan, A., Gruchmann, T., Lohmar, F., Kamath, V., & Spinler, S. (2020). Sustainability assessment of last-mile logistics and distribution strategies: The case of local food networks. *International Journal of Production Economics*, 228, 107746. <https://doi.org/10.1016/j.ijpe.2020.107746>
- Merín-Rodríguez, J., Dasí, À., & Alegre, J. (2024). Digital transformation and firm performance in innovative SMEs: The mediating role of business model innovation. *Technovation*, 134, 103027. <https://doi.org/10.1016/j.technovation.2024.103027>
- Ministry of Consumer Affairs, Food and Public Distribution. (2020). *Consumer Protection (E-Commerce) Rules, 2020*. Government of India. https://consumeraffairs.gov.in/public/upload/files/E%20commerce%20rules_1732703966.pdf
- Ministry of Electronics and Information Technology. (2023). *The Digital Personal Data Protection Act, 2023*. Government of India. <https://www.meity.gov.in/static/uploads/2024/06/2bf1f0e9f04e6fb4f8fef35e82c42aa5.pdf>
- Ministry of Micro, Small and Medium Enterprises. (2024). *MSME Insider: August 2024*. Government of India. <https://msme.gov.in/sites/default/files/AugustInsider2024.pdf>



- Ministry of Micro, Small and Medium Enterprises. (2025). *Annual report 2024–25*. Government of India. <https://www.msme.gov.in/static/uploads/2025/06/cdd1fa9e3553498f59e6fef26bcc34b4.pdf>
- MUDRA. (2024). *Annual report 2023–24*. Micro Units Development and Refinance Agency. <https://www.mudra.org.in/Default/DownloadFile/Annual-Report-2023-24.pdf>
- National Payments Corporation of India. (2025). *Unified Payments Interface (UPI) product statistics*. <https://www.npci.org.in/product/upi/product-statistics>
- NITI Aayog. (2025). *Macro and fiscal landscape of the state of Punjab*. Government of India. <https://www.niti.gov.in/sites/default/files/2025-03/Macro-and-Fiscal-Landscape-of-the-State-of-Punjab.pdf>
- OECD. (2021). *The digital transformation of SMEs*. OECD Publishing. <https://doi.org/10.1787/bdb9256a-en>
- OECD. (2023). *OECD SME and entrepreneurship outlook 2023*. OECD Publishing. <https://doi.org/10.1787/342b8564-en>
- Olanrewaju, A.-S. T., Hossain, M. A., Whiteside, N., & Mercieca, P. (2020). Social media and entrepreneurship research: A literature review. *International Journal of Information Management*, 50, 90–110. <https://doi.org/10.1016/j.ijinfomgt.2019.05.011>
- Open Network for Digital Commerce. (2024). *Shareholder's report FY 2023–24*. <https://resources.ondc.org/investor-corner>
- Papadopoulos, T., Baltas, K. N., & Balta, M. E. (2020). The use of digital technologies by small and medium enterprises during COVID-19: Implications for theory and practice. *International Journal of Information Management*, 55, 102192. <https://doi.org/10.1016/j.ijinfomgt.2020.102192>
- Petropoulou, A., Angelaki, E., Rompogiannakis, I., Passas, I., Garefalakis, A., & Thanasas, G. (2024). Digital transformation in SMEs: Pre- and post-COVID-19 era: A comparative bibliometric analysis. *Sustainability*, 16(23), 10536. <https://doi.org/10.3390/su162310536>
- Philbin, S., Viswanathan, R., & Telukdarie, A. (2022). Understanding how digital transformation can enable SMEs to achieve sustainable development: A systematic literature review. *Small Business International Review*, 6(1), e473. <https://doi.org/10.26784/sbir.v6i1.473>
- Pingali, S. R., Singha, S., Arunachalam, S., & Pedada, K. (2023). Digital readiness of small and medium enterprises in emerging markets: The construct, propositions, measurement, and implications. *Journal of Business Research*, 164, 113973. <https://doi.org/10.1016/j.jbusres.2023.113973>
- Priyono, A., Moin, A., & Putri, V. N. A. O. (2020). Identifying digital transformation paths in the business model of SMEs during the COVID-19 pandemic. *Journal of Open Innovation: Technology, Market, and Complexity*, 6(4), 104. <https://doi.org/10.3390/joitmc6040104>
- Reserve Bank of India. (2025). *Annual report 2024–25*. <https://www.rbi.org.in/Scripts/AnnualReportPublications.aspx>
- Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). Free Press.



- Rupeika-Apoga, R., & Petrovska, K. (2022). Barriers to sustainable digital transformation in micro-, small-, and medium-sized enterprises. *Sustainability*, 14(20), 13558. <https://doi.org/10.3390/su142013558>
- SIDBI. (2025). *Annual report 2024–25: MSME outlook*. Small Industries Development Bank of India. <https://www.sidbi.in/annualreport/AnnualReport202425/msme-outlook.php>
- Syaifullah, J., Syaifudin, M., Sukendar, M. U., & Junaedi, J. (2021). Social media marketing and business performance of MSMEs during the COVID-19 pandemic. *The Journal of Asian Finance, Economics and Business*, 8(2), 523–531. <https://doi.org/10.13106/jafeb.2021.vol8.no2.0523>
- Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal*, 28(13), 1319–1350. <https://doi.org/10.1002/smj.640>
- Telecom Regulatory Authority of India. (2024). *The Indian telecom services yearly performance indicators 2023–24*. https://www.trai.gov.in/sites/default/files/2024-09/Report_14082024.pdf
- Tornatzky, L. G., & Fleischer, M. (1990). *The processes of technological innovation*. Lexington Books.
- UN Trade and Development. (2021). *COVID-19 and e-commerce: A global review*. United Nations. https://unctad.org/system/files/official-document/dtlstict2020d13_en.pdf
- UN Trade and Development. (2024). *Digital economy report 2024: Shaping an environmentally sustainable and inclusive digital future*. United Nations. <https://unctad.org/publication/digital-economy-report-2024>
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425–478. <https://doi.org/10.2307/30036540>
- 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. <https://doi.org/10.1016/j.jbusres.2019.09.022>