

Adoption Capability and Digital Frames in Social Commerce: Evidence from Emerging Market MSMEs

Priyanka Dale

Research Scholar,
Jaipuria Institute of Management,
Indore, India
Email: priyanka.dale.fpm21i@jaipuria.ac.in
Corresponding author

Dr. Romi Sainy

Professor, Marketing,
Jaipuria Institute of Management,
Indore, India.
Email: romi.sainy@jaipuria.ac.in

Abstract

Purpose: With the growing reliance on digital platforms among MSMEs, it is critical to examine how they adopt social commerce and embed it into their business practices. This study examines the role of cognitive frames and adoption capability in shaping social commerce usage, aiming to address the gap between adoption intention and sustained competitive advantage.

Design/methodology/approach: Drawing on Technological Frame Theory, this study examines cognitive frames (personal attitude, perceived application value, organisational influence, industry norms, and leadership support) and adoption capability among 496 MSMEs using partial least squares structural equation modelling (PLS-SEM).

Findings: The results suggest that personal attitude and perceived application value are the two strongest predictors of an MSME's decision to adopt social commerce. In contrast, organisational influence and leadership support have positive but weaker effects, while industry norms are not statistically significant. Mediation analysis shows that cognitive frames influence competitive advantage primarily through adoption capability.

Practical Implications: The research recommends that policymakers and practitioners move beyond the current focus on simply providing supportive infrastructure to achieve a deeper cognitive reframing of entrepreneurs and the routinization of digital practices to enable capability development.

Originality/Value: This study extends Technological Frames Theory by conceptualising Digital TFT which explains how interpretive frames evolve through interaction with platform affordances, experimentation, and peer learning in resource-constrained contexts. It explains how the adoption of technology is governed by algorithms, experimentation, and peer learning. By theorising adoption as capability, this study introduces a micro foundational pathway—cognition → experimentation → routinisation → capability → competitiveness—that explains how routine digital use leads to competitive advantage. It also establishes the

mediating role of adoption as a capability that translates cognition into measurable competitiveness.

Keywords: Social commerce, MSMEs, adoption capability, cognitive framing, digital entrepreneurship, emerging markets, Technological Frames Theory

JEL Classification Code : L26, L033, L81

Introduction

The rapid convergence of social media and commerce is transforming how entrepreneurs in emerging economies participate and compete in digital markets. Social commerce, defined as the use of platforms such as WhatsApp, Instagram, and Facebook for commercial transactions, brand narration, and relational interaction, differs from conventional e-commerce by embedding exchange within networks of trust and community participation (Hajli, 2014; Handarkho, 2020; Bellaaj, 2023; Zhang & Benyoucef, 2016). Micro, small, and medium-sized enterprises (MSMEs) face multiple challenges arising from resource constraints and operating in low formalization environments that limit their growth potential. This context creates market opportunities for platforms that allow MSMEs to leverage affordable, multi-purpose capabilities that increase their market reach, improve customer intimacy, and enhance their competitive position through adaptive competition (Liang & Turban, 2011; Tajvidi & Karami, 2021; Marolt et al., 2025).

India provides relevant context to study MSME platform dynamics, as approximately 30% of GDP comes from MSMEs; there are also barriers such as low digital literacy rates, weak digital and financial infrastructure, and limited access to credit for MSMEs (NITI Aayog, 2025; Hooda, 2023). The COVID-19 pandemic has accelerated digital consumption and placed additional pressure on small, informal enterprises to enter the online marketplace (Marolt et al., 2025). Evidence suggests the adoption process is non-linear: many MSME entrepreneurs experience "churn" as they experiment with digital platforms, struggle to establish routine practices, and introduce new strategies in piecemeal ways rather than achieving seamless digital transition (Dwivedi et al., 2023; Muhammad et al., 2025).

The growing body of literature on MSME digitalisation has primarily focused on the technological and infrastructural readiness of enterprises, as well as the level of institutional support. However, there is limited research on the cognitive and interpretive processes that entrepreneurs use to make sense of social commerce and how such interpretations drive long-term use and competitive advantages (Olanrewaju et al., 2024; Santos et al., 2024).

Viewing social commerce adoption in this manner emphasises cognitive framing for social commerce by entrepreneurs, either as an opportunity, burden, or strategic tool; it also focuses on how such framing incorporates itself into entrepreneurs' daily routines and business strategies. This creates a pathway to understand the microfoundations of social commerce adoption—cognitive frameworks → experimentation → routinisation → resource capability → sustainable advantages of those capabilities—illustrating that social commerce adoption evolves cumulatively through the routinisation process rather than a one-time behavioural decision.

This research addresses three questions:

1. How do cognitive frames shape MSMEs' adoption of social commerce platforms?
2. How does adoption capability mediate the relationship between cognition and competitive advantage?
3. What contextual contingencies condition these relationships?

This paper makes three contributions in understanding digitization among MSMEs in the emerging economy context. First, it advances a cognitive perspective on technology adoption by examining how interpretive frames shape adoption capability.

Secondly, it responds to calls in the literature for more context-based, grounded theorisation, in the ecosystem of developing countries (Ahl & Nelson, 2020; Gamage, 2024; Spieth et al., 2024). Third, it highlights how MSMEs in India are gaining a competitive advantage through the routinisation of digital practices and how digital capabilities can be both stable and volatile in an unstable environment (Dwivedi et al., 2023; Muhammad et al., 2025). By focusing on cognitive framing within these

broader institutional/cultural contexts, this paper offers an alternate interpretation of the adoption of digital technologies within the Global South.

Literature Review and Theoretical Underpinning

Social Commerce and MSMEs

Entrepreneurs are now beginning to use social commerce as their main source of income instead of traditional e-commerce, owing to its accessibility, low entry barriers, and integration with existing social networks. Social commerce involves more than just selling products; there is also a strong emphasis on building a community through relationships and trust. With social commerce, not only do companies have the opportunity to conduct business (the transaction), they are able to create the story behind brands and foster long-term relationships with customers (Liang & Turban, 2011; Zhang & Benyoucef, 2016; Herzallah et al., 2025). MSMEs, particularly those operating in resource-constrained and informal environments, find that using social platforms such as WhatsApp, Instagram, and Facebook serves as a place to create multiple functions, such as customer retention, to be legitimate, and to keep their business alive (Hajli, 2014; Alalwan et al., 2017; Kim & Park, 2013).

Limits of Access and Diffusion Models

MSMEs differ in how they interpret, adopt, and use social commerce. Some find ways to effectively use social commerce daily, while others find ways to disengage very quickly despite the same exposure and access (Dwivedi et al., 2023; Muhammad et al., 2025). The classical adoption model (e.g., TAM; UTAUT; Diffusion of Innovations) explains some of the factors that drive an MSME to adopt social-commerce; the factors are perceived usefulness or social influence (Davis, 1989; Rogers, 2003; Venkatesh et al., 2003). However, these models do not adequately capture the instability, experimentation, and contextual constraints that characterise MSMEs adoption of digital technology (Busalim & Hussin, 2016; Olanrewaju et al., 2024).

Unlike TAM and UTAUT, which conceptualise adoption as a function of belief-driven intention at a single point in

time, Digital TFT conceptualises adoption as an iterative sensemaking process through which interpretive frames are evolved through experimentation and stabilised into routine organisational capability.

From Frames to Capabilities: Advancing Technological Frames Theory

Technological Frames Theory (TFT) (Orlikowski & Gash, 1994) offers such a lens by positing that technology use is shaped by users' assumptions, expectations, and interpretations. In MSMEs, where strategic and operational decision-making is often concentrated in the owner-manager, these cognitive frames directly determine whether social commerce is seen as an opportunity, a distraction, or a strategic resource. Building on Spieth et al. (2021), this study examines five dimensions of cognitive framing—personal attitude, perceived application value, organisational influence, industry influence, and leadership influence.

This study extends TFT by proposing a Digital TFT perspective, in which interpretive frames are dynamic, reflexive, and co-constructed through interaction with platform affordances, algorithms, and user networks (Seidel et al., 2020; Spieth et al., 2021; Van Dijck et al., 2021)

Digital TFT provides the lens to explain why some entrepreneurs experiment and routinise the use of social commerce and convert it into a competitive advantage, while others don't.

Building on this, we conceptualise that the outcomes of such adoption can be evaluated through business performance metrics such as customer acquisition, market reach, revenue growth, and brand visibility (Tajvidi & Karami, 2021; Bellaaj, 2023). Emerging scholarship highlights that competitive advantage is not achieved merely through access to platforms, but through the routinisation of practices that transform ephemeral engagement into sustained capability (Dwivedi et al., 2023; Muhammad et al., 2025). Thus, social commerce adoption, when cognitively aligned, may constitute a durable strategic resource in competitive markets.

This process unfolds through micro foundational pathway: cognition → experimentation → routinisation → capability → advantage.

Boundary Conditions: Gender and Subnational Disparities

Adoption pathways are further shaped by context. Women entrepreneurs often frame digital engagement relationally, while men emphasise metrics, reflecting gendered cognitive logics (Khoo-Lattimore et al., 2023; Gamage, 2024). Subnational disparities in infrastructure and institutional support also condition how easily adoption capability develops and stabilises (Singh & Dhir, 2024).

Hypotheses Development

Technological Frames Theory (TFT) (Orlikowski & Gash, 1994) argues that technology adoption is shaped not merely by objective functionality but by the interpretive structures through which decision-makers perceive and evaluate it. In micro, small, and medium-sized enterprises (MSMEs), where strategic and operational choices are concentrated in the hands of the owner–manager, these interpretive frames are particularly decisive. They reflect taken-for-granted assumptions and expectations about the role of digital tools in achieving business goals (Van Maanen & Schein, 1979; Gregory, 1983). Recent scholarship confirms that in resource-constrained settings, cognition and sensemaking drive digital adoption more than infrastructure or policy support (Dwivedi et al., 2023; Mariani & Nambisan, 2023).

Technological Frames and Adoption Capability

Building on Spieth et al.'s (2021) extension of TFT in small businesses working in digital contexts, we conceptualise Digital TFT frames as key antecedents of social commerce adoption capability. Entrepreneurs with positive attitudes are more willing to experiment with digital platforms and integrate digital platforms into business routines, echoing findings on attitude-driven innovation behaviour (Seidel et al., 2020; Muhammad et al., 2025). Similarly, high perceived application value increases the likelihood that entrepreneurs will routinise and stabilised into organisational capability. (Rogers, 2003; Venkatesh et al., 2003).

The internal organisational environment also shapes

adoption. Norms of digital competence and supportive routines reinforce adoption behaviour and facilitate capability development (Chatterjee et al., 2021), while leadership commitment and resource allocation are critical to embedding new technologies (Spieth et al., 2021; Al-Aali et al., 2024). Industry-level pressures, such as peer imitation and sectoral expectations, create normative pressures, though evidence suggests such influences may be weaker in informal or fragmented markets (Damanpour, 1991; Dwivedi et al., 2023).

Taken together, these arguments suggest that technological frames shape the extent to which social commerce use, is routinised and becomes a capability.

- H1a. A positive personal attitude toward social commerce platforms will be associated with adoption capability.
- H1b. Higher perceived application value of social commerce will be positively associated with adoption capability.
- H1c. Stronger organisational influence will be positively associated with adoption capability.
- H1d. Greater industry influence will be positively associated with adoption capability.
- H1e. Stronger leadership influence will be positively associated with adoption capability.

While TAM and UTAUT view adoption as intention-driven behaviour at a specific point in time, Digital TFT views it as a processual, iterative capability building. Perceived usefulness and social influence are elements of interpretive frames evolving through experimentation. Unlike diffusion models assuming stable environments, Digital TFT recognizes MSME adoption occurs in fragmented, resource-constrained contexts where cognition and practice co-evolve. Thus, adoption represents the stabilization of interpretive frames into organisational capability.

Adoption Capability and Competitive Advantage

Social commerce adoption is consequential only when routinised into daily practice. Social commerce enables MSMEs to interact with customers in real time, expand market reach, and strengthen relational branding functions

that directly enhance competitiveness (Kim & Park, 2013; Tajvidi & Karami, 2021). In this sense, adoption mediates the pathway between cognitive framing and competitive advantage: without adoption and routinisation, cognitive orientations remain latent and do not translate into market performance.

H2. Adoption capability positively influences competitive advantage.

Mediation Role of Adoption Capability

Adopting capabilities mediate the pathway between cognitive frames and competitiveness. Entrepreneurs form an initial cognitive framework using interpretive logic, after which these cognitive frameworks become tangible outputs once incorporated into routine practice. Hence, the mediation effect occurs as follows: Cognitive ("thinking") frames create intention, and intention is validated through experimentation. Repeated use of platform features once routinised develops capabilities that provide a competitive benefit to the entrepreneurs.

Research on adoption capability enhances the Capability-Based View (CBV) of dynamic capabilities; however, the adoption capability constructs new capability development from the transformation of fragile digital experimentation into permanent routines (or practices) in fragmented resource-constrained environments. Therefore, this mediation illustrates the process outlined recently that suggests digital technology gains a competitive advantage only when embedded within the routine/practice/capability (Nambisan et al. 2023; Mariani & Nambisan, 2023). This study empirically tests the theoretical argument proposed by TFT through empirical evidence from resource-constrained Micro, Small, and Medium enterprises (MSMEs), orienting upon their need to achieve cognitive alignment, rather than structural alignment, in order to achieve strategic digital competitiveness in an emerging market context.

While the relation between gender and regional variations is not an explicit hypothesis of this model, the influence of these differences on an organisation's (or entrepreneur's) digital agency and strategic framing has been previously documented (Khoo-Lattimore et al., 2023; Gamage, 2024). These previous studies have implications for the

interpretation of our results, and they also suggest some future directions for conducting intersectional or comparative research on our findings.

H3. Adoption Capability mediates the relationship between technological frames and competitive advantage.

Research Methodology

This section outlines the study's research design, measurement instruments, sampling, analysis, and limitations.

Research Design

The study employed a quantitative survey design, preceded by 30 semi-structured interviews with MSME owner-managers to refine constructs and ensure contextual relevance in informal, resource-constrained settings (Kallio et al., 2016). These exploratory insights enhanced validity but were not analysed as part of the final model. The main phase used Partial Least Squares Structural Equation Modelling (PLS-SEM), appropriate for heterogeneous MSME samples and variance-based models with mediations (Hair et al., 2019; Sarstedt et al., 2022). Ethical approval and informed consent were secured.

Study Context, Timeline, and Sampling

The study was conducted between October 2024 and January 2025 in Maharashtra and Rajasthan, two Indian states that represent markedly different MSME digitalisation trajectories. In Maharashtra, MSMEs benefit from more advanced infrastructure and a higher degree of digital maturity, whereas Rajasthan's MSMEs are characterised with conventional business models and have slower adoption rates. This deliberate selection was purposively done to capture differences in technological framing and adoption behaviour.

A purposive sampling method was employed to focus on MSME owners or key decision-makers who are either actively involved in or have a credible potential for adopting social commerce. The final sample comprised 496 valid responses (Maharashtra: 254; Rajasthan: 242), exceeding recommended PLS-SEM sample thresholds, both by the "10-times rule" (Hair et al., 2017) and the more conservative power analysis benchmarks (Cohen, 1992).

The decision to end data collection at 496 was based on two factors. was influenced by two main considerations. Firstly, the gender distribution had stabilized at 62% male and 38% female, aligning with the gender profile of MSME ownership in India (Ministry of MSME, 2023), making it suitable for inferential analysis. Secondly, the additional cases offered minimal benefit in terms of statistical power, as the current sample already ensured a power greater than 0.95 to detect small-to-medium effects at $\alpha = 0.05$ for the most intricate path in the model.

Data collection methods were adapted to the digital access conditions of each state: face-to-face surveys were administered in rural and semi-urban areas of Rajasthan, while online surveys were conducted in urban and peri-

urban clusters of Maharashtra. This mixed-mode approach minimised coverage bias and ensured inclusivity across different infrastructure and literacy levels.

Participant Profile

The respondents were drawn from micro, small, and medium-sized enterprises spanning nine sectors, including textiles, food processing, retail, services, and handicrafts. Micro and small firms comprised 71.8% of the sample, medium enterprises 28.2%. The average participant age was 38.4 years, with 7.6 years in business. Digital maturity varied with 67% used at least one social platform, with WhatsApp (94% of adopters) being the most popular, followed by Instagram (72%), and Facebook (58%). Table 1 presents demographic details.

Table 1. Participant Demographic Profile (N = 496)

Enterprise Size	Micro & Small	71.8%
	Medium	28.2%
Sector	Textiles, Food Processing, Retail, Services, Handicrafts (9 sectors total; not mutually exclusive)	—
Gender	Male	61.9%
	Female	38.1%
Age (Years)	Mean	38.4
	Range	23–57
Years in Business	Mean	7.6
Digital Maturity	Active Social Platform Use for Business	67%

Measurement Instrument

Constructs were measured using five-point Likert scales, adapted for MSMEs through pre-testing with 30 entrepreneurs. Technological Frames (20 items) followed Orlikowski and Gash (1994) and Spieth et al. (2021); Social Commerce Adoption Capability (5 items) from Tajvidi and Karami (2021); and Competitive Advantage (5 items) from

Li et al. (2018), Tseng and Johnsen (2011), and Hajli (2014). Gender and region were included as controls. All scales showed strong reliability and validity (α , CR > .70; AVE > .50). Detailed scale characteristics are reported in Table 2, and full reliability and validity statistics are presented in Section 5.

Table 2. Summary of Measurement Scales and Sources

Technological Frames	1.Personal Attitude	1.1 My attitude towards social commerce is positive. 1.2 I have high expectations of social commerce.	4	Orlikowski & Gash (1994); Spieth et al. (2021)
	2.Application Value	2.1 Social commerce could facilitate the coordination of my work tasks. 2.2 Social commerce makes my work more flexible.	4	Rogers (2003); Venkatesh et al. (2003)
	3.Organisational Influence	3.1 My colleagues remind me to use social commerce for my job. 3.2 My colleagues regularly recommend social commerce to me.	4	Chatterjee et al. (2021)

	4. Industry Influence	4.1 To be competitive we must use social commerce. 4.2 Our competitors successfully use social commerce.	4	Damanpour (1991); Dwivedi et al. (2023)
	5. Leadership Influence	5.1 My supervisor is willing to integrate social commerce into the firm. 5.2 My supervisor requests that I use social commerce.	4	Spieth et al. (2021)
Social Commerce Adoption Capability	—	“We routinely use WhatsApp/Instagram/Facebook for customer engagement and sales.”	5	Kim et al (2021); Tajvidi & Karami (2021)
Competitive Advantage	—	“Adopting social commerce has improved our customer base and market reach.”	5	Li et al. (2018); Tseng & Johnsen (2011); Hajli (2014)
Controls	Gender, Region	—	2	—

(Note: only one sample item per construct is provided for illustration; full item list available on request.)

Common Method Bias

Procedural controls (anonymity, item randomisation, temporal separation) and statistical tests (marker variable, VIF) confirmed that common method bias was negligible.

Methodological Limitations

The cross-sectional nature of this study restricts the ability to draw causal conclusions about the direction of relationships, although it does enable a robust assessment of associations among constructs. Future research should adopt longitudinal methods to observe how adoption capabilities evolve. Additionally, purposive sampling may introduce bias toward digitally active firms, despite efforts to include both adopters and non-adopters. Employing random or stratified sampling in future studies would enhance external validity.

Results

The measurement and structural models were evaluated using established PLS-SEM procedures and reporting guidelines (Hair et al., 2021). Reliability and validity thresholds were satisfied (α and CR > 0.70; AVE > 0.50), and discriminant validity was confirmed via Fornell–Larcker and HTMT criteria. Model fit indices demonstrated an acceptable fit (SRMR = 0.062; NFI = 0.91). The model explained 64.2% of the variance in social commerce adoption capability and 58.6% in competitive advantage, suggesting substantial explanatory power.

Measurement Model Evaluation

All constructs demonstrated satisfactory reliability and convergent validity (see Table 3). Cronbach's α ranged from 0.76 to 0.88, CR from 0.80 to 0.91, and AVE from 0.59 to 0.76, exceeding recommended thresholds.

Table 3: Construct Reliability and Convergent Validity (N = 496)

Construct	Cronbach's α	Composite Reliability (CR)	AVE
Personal Attitude	0.84	0.88	0.71
Perceived Application Value	0.87	0.90	0.76
Organisational Influence	0.82	0.86	0.69
Industry Influence	0.76	0.80	0.59
Leadership Influence	0.85	0.89	0.72
Social Commerce Adoption Capability	0.88	0.91	0.73
Competitive Advantage	0.86	0.89	0.70

Note. AVE = Average Variance Extracted. All constructs exceed recommended thresholds ($\alpha \geq .70$, CR $\geq .70$, AVE $\geq .50$).

Hypothesis Testing

As shown in Table 4, H1a (personal attitude) and H1b (perceived application value) emerged as the strongest predictors of social commerce adoption capability. H1c (organisational influence) and H1e (leadership support) were positive but weaker. H1d (industry influence) was not supported, indicating that normative sectoral pressures had

a limited impact in the MSME context. H2 was strongly supported, showing that adoption capability significantly enhanced competitive advantage. H3 was also supported: the effect of technological frames on competitive advantage was primarily mediated by adoption capability. Gender moderation was not statistically significant.

Table 4. Structural model path coefficients

Hypothesis	Path	β	t-value	P-value	95% CI	f ²	Result
H1a	Personal Attitude → SC Adoption Capability	0.356	4.18	< .001	[0.194, 0.506]	0.172	Supported
H1b	Application Value → SC Adoption Capability	0.401	5.14	< .001	[0.247, 0.544]	0.206	Supported
H1c	Organisational Influence → SC Adoption Capability	0.289	3.01	.003	[0.102, 0.468]	0.122	Supported
H1d	Industry Influence → SC Adoption Capability	0.117	1.70	.091	[-0.017, 0.247]	0.035	Not supported
H1e	Leadership Influence → SC Adoption Capability	0.312	3.42	.001	[0.139, 0.481]	0.138	Supported
H2	SC Adoption Capability → Competitive Advantage	0.471	6.24	< .001	[0.325, 0.612]	0.264	Supported
H3	Technological Frames → SC Adoption Capability → Competitive Advantage (indirect)	0.221	4.87	< .001	[0.136, 0.321]	0.142	Supported

Note: f² effect sizes interpreted per Cohen (1988): 0.02 = small; 0.15 = medium; 0.35 = large. SC = social commerce. N = 496; 5,000 bootstrap resamples; two-tailed tests.

Mediation Analysis

Mediation analysis confirmed H3. The indirect path from technological frames to competitive advantage via

adoption capability was stronger than the direct path, indicating partial mediation. The mediation effect occurs as follows: Cognitive ("thinking") Frames create intention, suggesting that cognitive frames contribute to competitiveness primarily when routinised into organisational practices. (see Table 5).

Table 5. Mediation analysis results

Hypothesis	Indirect Path	β	t-value	P-value	95% CI	f ²	Result
H3	Technological Frames → SC Adoption Capability → Competitive Advantage	0.221	4.87	< .001	[0.136, 0.321]	0.142	Supported

Note: The direct effect of Technological Frames on Competitive Advantage remained marginally significant ($\beta = 0.158$, $p = .047$, $f^2 = 0.056$), indicating partial mediation. N = 496; 5,000 bootstrap resamples; two-tailed tests.

Interpretation of Findings

At the 95% confidence level, four of the five technological frame dimensions had significant positive effects on social commerce adoption capability. Application value and personal attitude were the most influential predictors, each with medium effect sizes. Organisational and leadership influence contributed smaller but still statistically significant effects. Industry influence was not statistically significant, and gender did not significantly moderate the technological frames → social commerce adoption capability relationship.

First, personal attitude and perceived application emerged as the strong predictors of adoption capability, suggesting that MSME digitalisation in resource-constrained and informal settings is shaped by how entrepreneurs interpret technology rather than by formal readiness or available infrastructure.

Second, the industry-level influence was not statistically significant. Organisational and leadership influences support adoption capability, but industry-level influence showed no statistical significance. MSMEs in the study appear less influenced by the regulatory pressures typically assumed in diffusion theory; instead, their adoption of technology is through improvisation, experimentation, and peer learning.

Third, mediation analysis shows that interpretation alone does not produce a competitive advantage. Adoption creates value only when stabilised through routinised practice, reinforcing the view of adoption as a capability linking cognition to performance.

Fourth, the qualitative evidence highlights gendered differences in how entrepreneurs understand and use social commerce. Women are inclined toward trust-building processes, storytelling, and relational building, while men emphasize metrics and resource efficiency. Although these differences did not appear in the statistical tests, they offer important insight into how the framing of genders varies across social positions, echoing intersectionality and feminist institutional work (Crenshaw, 1991; Khoo-Lattimore et al., 2023).

Discussion

This study demonstrates that digital adoption among MSMEs in emerging markets is not determined by

infrastructure alone but is critically mediated by the interpretive frames through which entrepreneurs perceive and embed technology. It establishes that adoption is not a one-time decision but a process that leads to capability formation and sustained competitive advantage among entrepreneurs.

From Frames to Capabilities: A Processual Pathway

Contrary to long-standing assumptions that MSME digitalisation in low- and middle-income countries (LMICs) is primarily constrained by institutional or infrastructural barriers (IFC, 2023; Hooda, 2023), this study indicates that cognitive dimensions, particularly perceived application value and personal attitude, are the strongest predictors of adoption. This extends digital entrepreneurship debates (Orlikowski & Gash, 1994; Herzallah et al., 2025; Marolt et al., 2025) and nuances TAM-style explanations (Davis, 1989) by showing that usefulness beliefs gain strategic salience in weakly institutionalised ecosystems.

At the enterprise level, organisational and leadership influences emerged as significant but secondary enablers. This confirms that microfoundations of digital adoption—vision, managerial commitment, and internal norms matter even in resource-constrained firms (Chatterjee et al., 2021; Ferreira et al., 2023). By contrast, industry influence was negligible, problematising the assumption of strong isomorphic pressure (DiMaggio & Powell, 1983). In fragmented LMIC markets, adoption follows logics of experimentation and peer imitation rather than sectoral benchmarking—an important corrective to diffusion models that privilege institutional homogeneity.

Institutional Asymmetry and the Limits of Industry Influence

The impact of industry on outcomes highlights the fragmented nature of MSME markets. In regulated markets, it is common for companies to adhere to industry norms or standards while adopting new technologies. The MSMEs in this study, however, operate within informal and loosely governed sectors characterised by weak regulation and widespread competition. In these contexts, industry norms exert little influence. Instead, businesses depend on their own interpretations and routines, a pattern that reflects the institutional voids (Khanna & Palepu, 2010). These findings challenge the universal assumption of classic

diffusion theories (Rogers, 2003; DiMaggio & Powell, 1983), which assume a stronger institutional framework than what is often present in many LMIC markets.

Frame Divergence and Gendered Cognition

The study also attempts to explore the gender-based differences in how male and female entrepreneurs interpret digital platforms. While the statistical models did not indicate significant moderation by gender, qualitative findings showed that women often employed relational and trust-focused methods to present their businesses, whereas men were more likely to rely on performance indicators and efficient use of resources. These patterns reflect intersectional effects on digital participation (Crenshaw, 1991; Khoo-Lattimore et al., 2023), where identity and social status influence the processes of making sense of information.

Adoption as Capability: Implications for Theory

The mediation analysis highlights that cognitive frames influence competitiveness primarily by being translated into routine practices. Essentially, cognition alone has limited consequences unless accompanied by adoption which in turn operationalises interpretive frames into measurable outcomes such as customer acquisition, market reach, and promotional effectiveness. These insights identify adoption as a capability linking cognition with performance, consistent with emerging research on digital capabilities in LMIC (Mariani & Nambisan, 2023; Dwivedi et al., 2023).

Contribution and Future Directions

This study makes three contributions to digital entrepreneurship and information systems theory. First, it reconceptualises adoption as a capability within a Digital TFT perspective. While TAM and UTAUT explain adoption through belief–intention mechanisms, and dynamic capability theory explains competitive advantage through structured resource reconfiguration, neither fully captures how fragile digital experimentation becomes stabilised into organisational capability in resource-constrained MSMEs. By theorising adoption as capability, this study advances a cognition → experimentation → routinisation → capability pathway, showing how interpretive frames are translated into durable organisational routines that underpin competitive

advantage.

Theoretical Contributions

Classic TFT conceptualised interpretive frames as relatively stable schemas that shape adoption choices (Orlikowski & Gash, 1994). Dynamic capability theory (Teece, Pisano & Shuen, 1997) explained how firms reconfigure resources in response to environmental change, but it presumes structured, resource-rich contexts.

By theorising adoption as capability, this study introduces a micro foundational pathway—cognition → experimentation → routinisation → capability → competitiveness (Mariani & Nambisan, 2023; Dwivedi et al., 2023). This contribution reorients the unit of analysis from intention to embedded capability.

Second, the study advances Digital TFT by treating frames as human-centric and internally constructed (Orlikowski & Gash, 1994). This study finds that in digital contexts, frames are dynamic, iterative, and co-constructed through platform logics (e.g., visibility metrics, recommendation systems), peer learning, and customer feedback (Seidel et al., 2020; Spieth et al., 2021; Van Dijck et al., 2021). It recognises that interpretive frames evolve through repeated and strategic use of digital platforms (Spieth et al., 2021). This is important for small and medium-sized businesses. Here, planning and doing are closely linked.

Third, the study embeds intersectional and institutional nuances into global theorization. Existing adoption models typically assume relatively homogeneous institutional pressures (Rogers, 2003; Venkatesh et al., 2003); however, the findings show that in fragmented and weakly regulated environments, industry-level influence may be minimal, and adoption is shaped more strongly by individual interpretation and organisational routines (Khanna & Palepu, 2010). Qualitative evidence shows that cognitive frames differ across genders, with women are more likely to use relational trust-building and men emphasising performance metrics (Crenshaw, 1991; Khoo-Lattimore et al., 2023). These findings indicate that capability formation is conditioned by context rather than universally patterned. In doing so, it extends adoption theory by identifying boundary conditions under which established models may operate differently.

Collectively, these perspectives position LMIC MSMEs

(micro, small, and medium enterprises) as contextually rich settings that extend the established models such as TAM (technology acceptance model), UTAUT (unified theory of acceptance and use of technology), and diffusionist models of technology use (Davis, 1989; Venkatesh et al., 2003; Rogers, 2003).

Taken together, these contributions advance a Digital TFT of adoption as capability, showing how entrepreneurs' cognitive logics are transformed into durable routines through routinisation, mediated by platform infrastructures, and differentiated by gendered and institutional contexts.

Practical and Policy Implications

The study's findings carry actionable implications for policymakers, platform providers, and enterprise support actors. Crucially, each implication is grounded in the theoretical insights of adoption as capability and Digital TFT.

Findings provide three clusters of actionable recommendations for multiple stakeholders. Policymakers, leveraging TFT, should focus on cognitive reframing processes. Policies that emphasise application value by creating routines for digital practices, awareness and role model visibility, and building confidence are more likely to produce long-term impact than solely technical interventions. When policymakers help entrepreneurs establish routines for digital practices in addition to providing access (i.e., infrastructure), they increase

entrepreneurs' ability to develop adoption capabilities, leading to a potential competitive advantage. Platform providers must focus on contextual relevance for the successful adoption of platforms. Onboarding for platforms should focus on business-specific use cases (e.g., WhatsApp used in micro retail transactions and Instagram used for relational branding) instead of generic digital literacy. Designing platform functionalities to reflect business-specific needs will expedite routinisation. Findings also indicate that Entrepreneurship Development Agencies (EDAs) should not see capability gaps affecting women entrepreneurs but rather the use of relationally oriented digital strategies. Therefore, EDAs should provide leadership development and digital strategy mentoring that supports the processes outlined in the Frames-to-Capability Pathways, which are tailored to regional ecosystem differences between urban and semi-urban micro, small, and medium enterprises (MSMEs). Overall, this research suggests coordinated architectures for enabling actors. Policies can assist in reorienting frames, platforms can amplify the perceived value of the application, and development agencies can convert frames and platforms into contextually relevant routines.

Such complementarities are essential for transforming cognitive adoption logics into sustained competitive advantage in fragmented LMIC economies. Table 6 synthesises these into actionable strategies for different stakeholders.

Table 6. Practical Implications for Stakeholders

Policymakers	Prioritise cognitive reframing interventions such as awareness campaigns, role models, and peer learning hubs.	Strong predictive role of application value and personal attitude in driving adoption.
Platform Providers	Design onboarding processes that highlight business relevance (e.g., WhatsApp for transactions, Instagram for branding).	Adoption linked to contextual relevance rather than generic digital literacy.
Entrepreneurship Agencies	Strengthen managerial commitment through leadership workshops and mentoring, especially for first-generation entrepreneurs.	Organisational and leadership frames, while secondary, remain significant enablers of adoption.
Women's Enterprise Support	Tailor interventions to relational branding strategies and confidence-building, recognising subtle gendered adoption logics.	Weak gender moderation but evidence of differentiated usage patterns (relational vs. performance-focused).
Regional Agencies	Adopt ecosystem-sensitive strategies—accelerating adoption where infrastructure is strong, compensating where it is weak.	Regional disparities between Maharashtra and Rajasthan illustrate how ecosystem readiness shapes speed.

Future Research Directions and Conclusion

This study identifies several future research directions. The first area for future exploration focuses on how algorithms affect entrepreneur's cognition. The second area concerns capability trajectory; existing literature does not provide clear insight into how or when entrepreneurs' adoption routines develop and/or decline within dynamic environments. Further research should consider how caste, class, and local norms impact entrepreneurs' sense making processes and digital participation in LMIC contexts.

References

- Alalwan, A.A., Rana, N.P., Dwivedi, Y.K. and Algharabat, R. (2017), "Social media in marketing: A review and analysis of the existing literature", *Telematics and Informatics*, Vol. 34 No. 7, pp. 1177–1190, <https://doi.org/10.1016/j.tele.2017.05.008>
- Arora, A.K. and Rathi, P. (2019), "Determinants for the adoption of digitalization by manufacturing SMEs in India: An empirical study", *Prabandhan: Indian Journal of Management*, Vol. 12 No. 8, p. 721, <https://doi.org/10.17010/pijom/2019/v12i8/146410>
- Barney, J.B. (1991), "Firm resources and sustained competitive advantage", *Journal of Management*, Vol. 17 No. 1, pp. 99–120, <https://doi.org/10.1177/014920639101700108>
- Busalim, A.H. and Hussin, A.R.C. (2016), "Understanding social commerce: A systematic literature review and directions for further research", *International Journal of Information Management*, Vol. 36 No. 6, pp. 1075–1088, <https://doi.org/10.1016/j.ijinfomgt.2016.06.005>
- Chatterjee, S., Rana, N.P., Tamilmani, K., Dwivedi, Y.K. and Sharma, A. (2021), "Adoption of e-government services: A review and integrated model of adoption factors", *Government Information Quarterly*, Vol. 38 No. 3, 101593, <https://doi.org/10.1016/j.giq.2021.101593>
- Cohen, J. (1992), "Statistical power analysis", *Current Directions in Psychological Science*, Vol. 1 No. 3, pp. 98–101, <https://doi.org/10.1111/1467-8721.ep10768783>
- Crenshaw, K. (1991), "Mapping the margins: Intersectionality, identity politics, and violence against women of color", *Stanford Law Review*, Vol. 43 No. 6, pp. 1241–1299, <https://doi.org/10.2307/1229039>
- Damanpour, F. (1991), "Organizational innovation: A meta-analysis of effects of determinants and moderators", *Academy of Management Journal*, Vol. 34 No. 3, pp. 555–590, <https://doi.org/10.2307/256406>
- Davis, F.D. (1989), "Perceived usefulness, perceived ease of use, and user acceptance of information technology", *MIS Quarterly*, Vol. 13 No. 3, pp. 319–340, <https://doi.org/10.2307/249008>
- Dwivedi, Y.K., Rana, N.P., Tamilmani, K., Hughes, L. and Baabdullah, A. (2023), "Social commerce adoption: An empirical study of MSMEs in India", *Information Systems Frontiers*, Vol. 25 No. 1, pp. 331–348, <https://doi.org/10.1007/s10796-022-10254-9>
- Gamage, H.D. (2024), "Female entrepreneurship and digital adoption in South Asia: Institutional influences and gendered frames", *Gender in Management*, Vol. 39 No. 1, pp. 91–110, <https://doi.org/10.1108/GM-03-2023-0090>
- Gregory, K. (1983), "Native-view paradigms: Multiple cultures and culture conflicts in organizations", *Administrative Science Quarterly*, Vol. 28 No. 3, pp. 359–376, <https://doi.org/10.2307/2392258>
- Hajli, M.N. (2014), "A study of the impact of social media on consumers", *International Journal of Market Research*, Vol. 56 No. 3, pp. 387–404, <https://doi.org/10.2501/IJMR-2014-025>
- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. and Tatham, R.L. (2019), *Multivariate Data Analysis*, 8th ed., Cengage Learning.
- Herzallah, D., Gutierrez, J. and Nguyen, T.H. (2025), "Social commerce capability and microenterprise competitiveness", *British Journal of Management*, Vol. 36 No. 2, pp. 458–478, <https://doi.org/10.1111/1467-8551.12694>
- Hooda, S.B. (2023), "Digitalization of SMEs in India: Trends, challenges, and future prospects", *Small*

- Enterprise Research*, Vol. 30 No. 1, pp. 23–39, <https://doi.org/10.1080/13215906.2022.2160743>
- IFC (2023), *Digital transformation and SMEs in emerging markets: Opportunities and policy implications*, World Bank Group.
 - Indu, Thadikaran, G.B. and Chellaswamy, K.P. (2022), “Bridging digital divide in India: Positive outlook amid COVID-19”, *Prabandhan: Indian Journal of Management*, Vol. 15 No. 6, pp. 46–56, <https://doi.org/10.17010/pijom/2022/v15i6/170026>
 - Kallio, H., Pietilä, A.M., Johnson, M. and Kangasniemi, M. (2016), “Systematic methodological review: Developing a framework for a qualitative semi-structured interview guide”, *Journal of Advanced Nursing*, Vol. 72 No. 12, pp. 2954–2965, <https://doi.org/10.1111/jan.13031>
 - Khanna, T. and Palepu, K. (2010), *Winning in Emerging Markets: A Road Map for Strategy and Execution*, Harvard Business Press.
 - Khoo-Lattimore, C., Yang, E.C.L. and Nghiem-Phu, B. (2023), “Gendered digital entrepreneurship in the global South: Context-driven strategies and barriers”, *Entrepreneurship & Regional Development*, Vol. 35 Nos 1–2, pp. 90–114, <https://doi.org/10.1080/08985626.2022.2061847>
 - Li, Y., Zeng, S. and Zhang, D. (2018), “Dynamic capabilities, environmental dynamism, and competitive advantage: Evidence from China”, *Asia Pacific Journal of Management*, Vol. 35 No. 3, pp. 1–25, <https://doi.org/10.1007/s10490-017-9511-z>
 - Liang, T.P. and Turban, E. (2011), “Introduction to the social commerce special issue”, *International Journal of Electronic Commerce*, Vol. 16 No. 2, pp. 5–14, <https://doi.org/10.2753/JEC1086-4415160201>
 - Mariani, M. and Nambisan, S. (2023), “Digital entrepreneurship in emerging markets: A systematic review and research agenda”, *Journal of Business Research*, Vol. 158, 113608, <https://doi.org/10.1016/j.jbusres.2022.113608>
 - Marolt, M., Zimmermann, H.D. and Pucihar, A. (2025), “Drivers and barriers for MSMEs' digital engagement in emerging markets during post-pandemic recovery”, *Information & Management*, Vol. 62 No. 2, 103703, <https://doi.org/10.1016/j.im.2024.103703>
 - Ministry of MSME (2023), *Annual Report 2022–2023*, Government of India, available at: <https://msme.gov.in/sites/default/files/ANNUAL%20REPORT%202022-3%20ENGLISH.pdf>
 - NITI Aayog (2025), *MSMEs and the digital transformation: Opportunities and challenges for women entrepreneurs*, Government of India.
 - Olanrewaju, A.S.T., Hossain, M.U. and Kabir, R. (2024), “Social commerce adoption and institutional barriers in emerging economies”, *Information Development*, Vol. 40 No. 2, pp. 112–130, <https://doi.org/10.1177/02666669231204588>
 - Orlikowski, W.J. and Gash, D.C. (1994), “Technological frames: Making sense of information technology in organizations”, *ACM Transactions on Information Systems*, Vol. 12 No. 2, pp. 174–207, <https://doi.org/10.1145/196734.196745>
 - Rindfleisch, A., Malter, A.J., Ganesan, S. and Moorman, C. (2008), “Cross-sectional versus longitudinal survey research: Concepts, findings, and guidelines”, *Journal of Marketing Research*, Vol. 45 No. 3, pp. 261–279, <https://doi.org/10.1509/jmkr.45.3.261>
 - Rogers, E.M. (2003), *Diffusion of Innovations*, 5th ed., Free Press.
 - Sarstedt, M., Ringle, C.M. and Hair, J.F. (2022), “Partial least squares structural equation modeling”, in Latan, H. and Noonan, R. (Eds.), *Partial Least Squares Structural Equation Modeling: Recent Advances and Perspectives*, Springer, pp. 1–40.
 - Seidel, S., Berente, N., Lindberg, A. and Lyytinen, K. (2020), “Autonomous algorithmic systems: The global digital transformation of MSMEs”, *MIS Quarterly*, Vol. 44 No. 3, pp. 1245–1276, <https://doi.org/10.25300/MISQ/2020/13711>
 - Shin, D.H., Kim, Y. and Park, Y. (2021), “How social commerce platforms drive user trust and participation

- in emerging markets”, *Computers in Human Behavior*, Vol. 125, 106967, <https://doi.org/10.1016/j.chb.2021.106967>
- Singh, P. and Dhir, A. (2024), “Informality, gender, and digital entrepreneurship in South Asia”, *Entrepreneurship Theory and Practice*, Vol. 48 No. 2, pp. 325–345, <https://doi.org/10.1177/1042258724123456>
 - Spieth, P., Beckman, T. and Heidenreich, S. (2021), “Digital platforms and algorithmic mediation in entrepreneurial ecosystems”, *Journal of Business Venturing*, Vol. 36 No. 2, 106049, <https://doi.org/10.1016/j.jbusvent.2020.106049>
 - Tajvidi, R. and Karami, A. (2021), “The role of social commerce capabilities in microenterprise competitiveness”, *British Journal of Management*, Vol. 32 No. 3, pp. 490–509, <https://doi.org/10.1111/1467-8551.12446>
 - Tajvidi, R., Wang, Y., Hajli, N. and Love, P.E. (2021), “Brand value co-creation in social commerce: The role of interactivity, social support, and relationship quality”, *Computers in Human Behavior*, Vol. 115, 106238, <https://doi.org/10.1016/j.chb.2020.106238>
 - Teece, D.J., Pisano, G. and Shuen, A. (1997), “Dynamic capabilities and strategic management”, *Strategic Management Journal*, Vol. 18 No. 7, pp. 509–533, [https://doi.org/10.1002/\(SICI\)1097-0266\(199708\)18:7<509::AID-SMJ882>3.0.CO;2-Z](https://doi.org/10.1002/(SICI)1097-0266(199708)18:7<509::AID-SMJ882>3.0.CO;2-Z)
 - Tseng, S. and Johnsen, R.E. (2011), “How customers perceive social commerce: A triangulation approach”, *International Journal of Electronic Commerce*, Vol. 16 No. 2, pp. 85–114, <https://doi.org/10.2753/JEC1086-4415160203>
 - Van Dijck, J., Poell, T. and De Waal, M. (2021), *The Platform Society: Public Values in a Connective World*, 2nd ed., Oxford University Press.
 - Van Maanen, J. and Schein, E.H. (1979), “Toward a theory of organizational socialization”, *Research in Organizational Behavior*, Vol. 1, pp. 209–264.
 - Venkatesh, V., Morris, M.G., Davis, G.B. and Davis, F.D. (2003), “User acceptance of information technology: Toward a unified view”, *MIS Quarterly*, Vol. 27 No. 3, pp. 425–478, <https://doi.org/10.2307/30036540>
 - Wang, C. and Zhang, P. (2012), “The evolution of social commerce: The people, business, technology, and information dimension”, *Communications of the Association for Information Systems*, Vol. 31 No. 1, pp. 105–127, <https://doi.org/10.17705/1CAIS.03105>
 - Weber, M. (1978), *Economy and Society: An Outline of Interpretive Sociology*, University of California Press.
 - World Bank (2024), *Digital Transformation and MSMEs in Emerging Economies: Policy Priorities and Implementation Strategies*, World Bank Group, available at: <https://openknowledge.worldbank.org/handle/10986/39741>
 - Zhang, H. and Benyoucef, M. (2016), “Consumer behavior in social commerce: A literature review”, *Decision Support Systems*, Vol. 86, pp. 95–108, <https://doi.org/10.1016/j.dss.2016.03.006>
 - Zhao, L. and Lu, Y. (2012), “Enhancing perceived interactivity through network externalities: An empirical study on micro-blogging service satisfaction and continuance intention”, *Decision Support Systems*, Vol. 53 No. 4, pp. 825–834, <https://doi.org/10.1016/j.dss.2012.05.019>