MAKING CHANGE VISIBLE: HOW DIGITAL DEXTERITY BUILDS ADAPTIVE CAPACITY THROUGH VISUAL STRATEGY IN MSMEs E-COMMERCE

Gracela Marisa Sanapang[1]*, Bilyan Putra Sari[2], Muh Syulhasbiullah[3]

[1,3]Management / Sekolah Tinggi Ilmu Ekonomi Ciputra Makassar, Makassar
[2]Visual Communication Design / Universitas Ciputra Surabaya, Surabaya
E-mail: gracela.marisa@ciputra.ac.id[1]*, bilyan.putra@ciputra.ac.id[2], muh.syulhasbiullah@ciputra.ac.id[3]

Abstract

Set within Indonesia's rapidly evolving platform-mediated commerce, this study explains how digital dexterity is converted into market-recognized adaptive capacity by specifying visual strategy as the execution mechanism at the customer interface. Drawing on dynamic capabilities and contemporary branding scholarship, we surveyed 240 e-commerce Micro, Small, And Medium Enterprise (MSMEs) entrepreneurs and estimated a theory-driven model using partial least squares structural equation modeling with validated reflective measures. The results are clear and internally consistent. Digital dexterity strengthens visual strategy. Digital dexterity also enhances adaptive capacity directly. Visual strategy improves adaptive capacity. Visual strategy further serves as a substantive conduit that links digital dexterity to adaptive capacity, indicating that digital skills matter most when institutionalized through a disciplined, cross-channel visual system that standardizes identity elements, reusable templates, and trust-bearing cues so strategic shifts become legible, credible, and repeatable. The study contributes an integrated account that connects digital transformation capability to adaptive outcomes through visual execution. Practically, we recommend building dexterity micro skills in analytics and rapid testing, codifying lightweight brand kits and creative templates, and instituting a regular creative review cadence so adjustments are communicated consistently across touchpoints. We also outline directions for longitudinal and platform-specific replications that pair perceptual data with behavioral performance traces.

Keywords: *Digital Dexterity:Visual Strategy***:** *AdaptiveCapacity :Dynamic Capabilities: E-commerce Entrepreneur:*

INTRODUCTION

Indonesia's digital economy has fundamentally reshaped the competitive landscape of micro, small, and medium enterprises (MSMEs) through rapid e-commerce adoption across sales and service touchpoints. The latest e-commerce Statistics 2023 reports transaction value of Rp1,100.87 trillion and shows that over 95% of e-commerce businesses leverage social media or messaging apps for marketing, underscoring the ubiquity of platform-mediated commerce (BPS, 2025). At the macro level, Indonesia's internet economy, anchored by e-commerce, is projected to reach around USD 110 billion by 2025, which heightens the urgency for MSMEs to move beyond basic digitization toward adaptive digital practice (Google et al., 2023, 2024). Yet adaptation remains uneven: many firms still display fragmented branding, inconsistent cross-platform execution, and weak integration of digital tools into service processes, symptoms of a persistent gap between access and adaptation (Wulandari et al., 2024). In South Sulawesi, national statistics and regional studies similarly highlight adoption without consistent performance translation, indicating a need for targeted capacity-building in digital marketing and visual branding (BPS, 2025).

Within this context, digital dexterity, understood as the ability and ambition to use digital tools creatively and strategically across functions, emerges as a pivotal capability for MSMEs in volatile platform driven markets (Kropp et al., 2021). Digital dexterity goes beyond operational literacy to include agile learning, cross functional orchestration, and rapid responsiveness to shifting algorithms, formats, and consumer behaviors, yet it must become legible at the customer interface where choices are formed (Hanelt et al., 2021). Recent Indonesian evidence further indicates that fear of missing out (FOMO) and social commerce interactivity are associated with stronger impulsive–compulsive online purchasing tendencies, implying that market-facing cues (including trustworthy visual signals) can become disproportionately influential in platform-mediated environments (Ardyan & Sanapang, 2023).

Consistent with this sensitivity to digital cues, research also shows that online engagement can become difficult to regulate under certain conditions, with FOMO and perceived enjoyment shaping these effects, underscoring why interface-level presentation and credibility signals matter for MSMEs competing in attention-driven markets (Ardyan et al., 2024). Evidence from entrepreneurial SMEs shows that digital platform capability and network capability are associated with superior performance, indicating that agility and orchestration are pathways from digital use to outcomes (Cenamor et al., 2019). At the interface level, cumulative evidence and meta-analysis confirm that website and user experience quality shape perceived usability, trust, satisfaction, and downstream intentions (Kim & Peterson, 2017; Soleimani, 2022). In parallel, experimental work demonstrates that specific visual properties such as logo descriptiveness and visual asymmetry systematically influence brand judgments and choice, which implies that visual design can efficiently convey latent quality to buyers (Luffarelli et al., 2018). These insights motivate our focus on visual strategy as the translator that renders internal dexterity observable and rewarded by both platforms and consumers (Foroudi, Dinnie, et al., 2017; Keller, 2016).

Field evidence in Indonesian MSMEs points to a capability to execution gap, where many firms track platform metrics but lack routines that convert insights into coordinated content and design iterations across channels (Wulandari et al., 2024). National statistics further show geographic concentration and uneven e-commerce intensity, strengthening the case for context sensitive branding and service design beyond Java (BPS, 2025). Programmatically, these facts justify an intervention package that pairs dexterity training based on analytics driven experimentation and workflow integration with visual strategy support such as style guides, asset templates, and credible trust markers tailored to MSME profiles. Such mechanisms align with recent evidence that interface quality and credibility signals meaningfully bolster e-commerce trust and intentions (Kim & Peterson, 2017; Soleimani, 2022). Finally, the sustained expansion and monetization focus of the Southeast Asia internet economy underscores the need for scalable and region-tailored programs that can be replicated across diverse localities (Google et al., 2023, 2024)

Grounded in contemporary dynamic capabilities reasoning and recent work aligned with the technology organization environment perspective, we specify a mediation model in which visual strategy mediates the effect of digital dexterity on adaptive capacity (Vial, 2019; Warner & Wäger, 2019). In this specification, dexterity functions as a technological and organizational enabler through cross-functional analytics and rapid reconfiguration, visual strategy represents an organizational capability through identity coherence and trust-bearing cues, and adaptive capacity reflects fit through sensing, responding, and learning under turbulence (Hanelt et al., 2021). Empirical work in Indonesian SMEs supports links from capabilities to adaptation and performance under environmental pressure, which reinforces the pathway we test (Siahaan & Tan, 2022). The mechanism from capability to behavior is completed by interface research showing that website quality, user experience, and credible visual signals drive trust and loyalty, thereby connecting internal dexterity to adaptive outcomes through trust-bearing visual cues that are easy to read in digital marketplaces (Kim & Peterson, 2017; Luffarelli et al., 2018). Accordingly, visual strategy is posited as a statistically testable mediator between digital dexterity and adaptive capacity in MSME e-commerce settings.

LITERATURE REVIEW
Digital Dexterity

Digital transformation is best understood as an organizational-level capability system that combines cross-functional orchestration, data-driven learning, and rapid reconfiguration, rather than a one-off technology adoption event. Reviews across management and information systems connect these microfoundations to performance and renewal under turbulence and clarify the mechanisms that enable continuous change in digital contexts, including governance and learning loops that align technology with strategy and structure in practice (Hanelt et al., 2021; Verhoef et al., 2021; Vial, 2019). A recent meta-analysis shows that information technology capability is positively associated with organizational agility and performance across studies, underscoring integration and learning routines as the conduit from digital investment to outcomes (Y. Chen et al., 2015; Werder & Richter, 2022). For SMEs, capability building typically unfolds as iterative sensing, seizing, and transforming, and depends on digital leadership and absorptive routines that compress the distance from external signals to internal action (Warner & Wäger, 2019). A comprehensive overview of the field documents how digital transformation research in business and management has evolved and where capability-based explanations are most persuasive, providing a map for future empirical work in smaller firms and platform-mediated markets (Kraus et al., 2022). In Indonesia, national evidence supports this capability to outcome logic. A study of five thousand and thirty-five ultra micro, micro, and small enterprises constructs a multi-process digital adoption index that covers e-procurement, point of sale, e-marketing, e-commerce, and digital payments, and links adoption and financial literacy to higher performance (Affandi et al., 2024). Work

on readiness maps key gaps in competencies and governance that condition the performance effects of digital investment for Indonesian MSMEs, which is essential for translating capability into market-facing consequences (Anatandan Nur, 2023). Prior research is strong on capability logic and outcome associations, but it under-specifies the market facing conduit through which inside the firm dexterity becomes observable and rewarded by customers and platform algorithms. This motivates an interface-level mechanism.

H1. Digital dexterity has a positive and significant association with visual strategy among MSME e-commerce firms

Visual Strategy

At the customer-platform interface, capability becomes behavior. Cumulative evidence shows that interface and user experience quality shapes perceived usefulness, trust, satisfaction, and downstream intentions, with trust working as a central conduit from design quality to behavior (Kannan & Li, 2017; Kim & Peterson, 2017). Controlled tests and branding studies further indicate that specific visual properties, logo symmetry and descriptiveness, disciplined color harmony, and coherent aesthetics, efficiently communicate latent quality, reduce uncertainty, and strengthen brand equity in high-choice environments (Hsieh et al., 2018; Luffarelli et al., 2018). Beyond single cues, identity governance coordinates signals across touchpoints, mitigates ambiguity, and increases processing fluency so that visual coherence becomes diagnostic of reliability in crowded digital channels (Badr, 2021; Foroudi, Dinnie, et al., 2017). Credibility architectures reinforce these effects at the interface, policy clarity, badges, and the valence/variance and formatting of reviews, which interact with presentation quality to shift intentions and sales, while peer influence in online networks provides additional lift through social-proof dynamics (Ausat & Suherlan, 2021; Bapna & Umyarov, 2015; Sembiring et al., 2023; Setyawati et al., 2024). Complementing these general eWOM insights, Indonesian social commerce evidence shows that online customer reviews materially shape customer trust and impulse buying, reinforcing the managerial salience of review display quality as a core element of interface-level credibility architecture (Sanapang et al., 2024).

For resource-constrained MSMEs, the implication is a deployable visual strategy: an orchestrated bundle comprising identity coherence, content standards, and trust-bearing cues that translate internal capabilities into platform-legible signals for both humans and algorithms (Kristiyanti et al., 2024). Indonesia-specific validations are consistent with this mechanism: the SMEs WebQ work confirms three website-quality dimensions, system quality, information quality, and service readiness, linking them to trust and intentions (Suryani et al., 2024; Suryawardani et al., 2021); studies using the (D)TOE lens show that decision-maker knowledge and perceived complexity shape adoption paths that surface front-end as interface execution quality, thereby tying back-end dexterity to market-facing cues (Bening et al., 2023; Setyawati et al., 2024). Taken together, the design → trust → behavior chain is well established; what MSMEs require is a system-level treatment that binds identity governance, content standards, and credibility indicators into a single, repeatable capability, visual strategy, to enhance processing fluency, legitimacy, and adaptive responses in dynamic digital marketplaces (Ausat & Suherlan, 2021; Setyawati et al., 2024).

H2. Visual strategy has a positive and significant association with adaptive capacity among MSME e-commerce firms.

Adaptive Capacity and Mediating Role

The concept of adaptive capacity plays a pivotal role in contemporary organizational theory, particularly in understanding how firms navigate turbulent environments. This capacity, characterized by the ability to sense, respond, and learn quickly, is essential for organizations seeking to maintain performance amidst rapid technological changes and evolving market demands (Puriwat & Hoonsopon, 2021). Recent literature emphasizes the importance of digitally enabled routines and robust data connectivity in enhancing real-time adaptability. For instance, (Mota et al., 2022) and (Puriwat & Hoonsopon, 2021) highlight the critical interface roles that convert internal capabilities into adaptive outcomes, which are rewarded within platform marketplaces (Mota et al., 2022; Puriwat & Hoonsopon, 2021).

In the context of Indonesia, empirical evidence underscores the connection between digitalization and performance improvement in micro and small enterprises. Research by (Falentina et al., 2021) and (Affandi et al., 2024) demonstrate how digital integration facilitates customer engagement and feedback, which in turn generates learning signals that enable quicker reconfiguration and continuous improvement in these firms (Fainshmidt et al., 2019; Zhang et al., 2022). This indicates that fostering customer and platform interfaces can significantly enhance organizational learning and agile responses to market dynamics, thereby contributing to overall productivity gains. To translate digital dexterity into adaptive capacity, visual strategy emerges as a fundamental mediator. Visual strategies improve processing fluency, reduce uncertainty, and strengthen trust between customers and organizations,

factors critical in enhancing the diagnostic capabilities necessary for effective sensing and response (Van De Wetering et al., 2019). Evidence from multiple studies supports the premise that visual strategies facilitate quicker feedback loops from platforms and customers, promoting ongoing reconfiguration (Mulyana et al., 2020). The literature also correlates peer influence and recommendation systems with enhanced decision-making and learning outcomes. For example, (L. Chen, 2023) and (Y. Chen et al., 2022) reveal how credible cues within platforms significantly shape organizations' learning processes from their market interfaces (L. Chen, n.d.; Y. Chen et al., 2022). This cumulative body of work indicates a substantive pathway from digital dexterity through visual strategy to adaptive capacity, reinforcing the idea that visual strategies not only make internal capabilities more apparent but also render them rewardable within the marketplace. In summary, the interplay of digital capabilities, strategic visuality, and adaptive capacity delineates a clear pathway for organizations aiming to thrive amid disruption. The synthesis of these elements posits that effectively leveraging digital tools and nurturing a visual strategy fortifies an organization's ability to respond dynamically to changing market conditions, ultimately fostering sustained competitive advantages through enhanced adaptation processes (Sartika et al., 2023).

H3. Digital dexterity has a positive and significant association with adaptive capacity among MSME e-commerce firms.

H4. Visual strategy positively and significantly mediates the relationship between digital dexterity and adaptive capacity.

METHOD

This research applies a cross-sectional, explanatory, quantitative survey. The study estimates a three-construct reflective model comprising Digital Dexterity, Visual Strategy, and Adaptive Capacity. All constructs are specified reflectively and measured with six action-anchored items each. Data were analyzed using PLS-SEM to establish reliability and validity for each construct and to test the hypothesised structural relationships. The broader nomological network guiding the study is shown in Figure 1. In this chapter we measure Visual Strategy (Z) with six reflective indicators; Digital Dexterity (X) and Adaptive Capacity (Y) are displayed to preserve theoretical continuity.
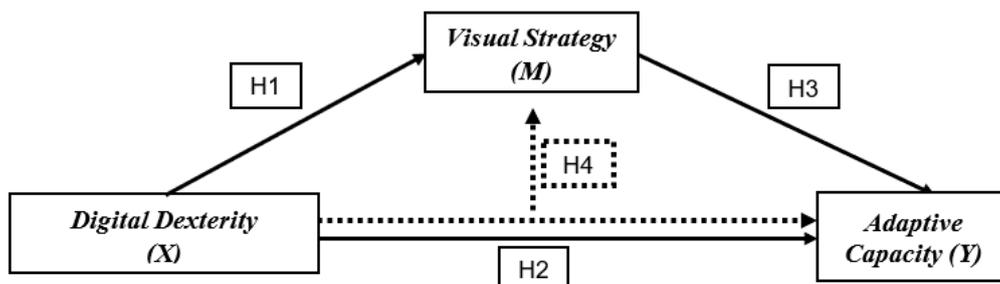

Figure 1. Conceptual Framework

The target population comprises Indonesian micro, small, and medium enterprises (MSMEs) that actively sell on mainstream e-commerce and social-commerce platforms. Inclusion criteria were: (i) at least twelve months of online operation; (ii) at least one fulfilled order during the previous three months; and (iii) an owner-manager or authorized account handler available to respond. We implemented stratified purposive sampling by product category and storefront digital maturity to ensure heterogeneity. Field administration yielded 240 usable questionnaires after data-quality screening. Respondent characteristics studied included gender, age, the last education, business age, product category, platform type, and brand visual consistency. These characteristics are important for understanding sample diversity and ensuring the relevance of the findings to the e-commerce business segment. The classification of respondent characteristics is summarized in Table 1.

Table 1. Characteristics of Respondents

Characteristics of Respondents	Description	Number (n)	Percentage (%)
Gender	Male	114	47,5
	Female	126	52,5
Age	<21 years old	7	2,6
	>40 years old	27	11,3
	21-30 years old	122	51
	31-40 years old	84	35,1
Last Education	Diploma (D1-D3)	25	10,6
	S1	148	61,6
	S2	8	3,3
	S3	3	1,3
	High School	56	23,2
Business Age	> 1 - 3 years	108	45,0
	> 3 - 6 years	46	19,2
	> 6 years	13	5,3
	6 month – 1 years	73	30,5
Brand Visual Identity Consistency	There is, but it is not consistent.		50,4
	There isn't any at all.		3
	Yes, very consistent.		46,6

All items are reflective, single-direction (no reverse coding), and action-anchored for MSME contexts, can be seen in Table 2.

Table 2. Construct and Measurement Items

Construct	Code	Measurement Items
Digital Dexterity (X) (Ellström et al., 2022; Saarikko et al., 2020; Teece et al., 2016)	X1	We quickly learn and apply new features released by our selling platforms
	X2	Our marketing, operations, and customer service coordinate smoothly for online tasks.
	X3	We run small experiments (A/B tests) and scale what works.
	X4	Analytics regularly inform how we change visuals, copy, and timing.
	X5	Our team can adopt new digital tools without disrupting daily work.
	X6	We adapt our storefront quickly when platform rules or algorithms change.
Visual Strategy (M) (Babić Rosario et al., 2016; Luffarelli et al., 2018; Suryani et al., 2024)	M1	Our visual identity is applied consistently across all channels.
	M2	Customers can recognize our brand from our visuals alone.
	M3	Our brand elements appear coherent across posts, product pages, and ads.

	M4	We use standardized templates that make product information easy to scan.
	M5	Our visuals highlight key benefits and proof at a glance.
	M6	Our pages clearly display policies and reviews that help customers judge quality.
Adaptive Capacity (Y) (Conz & Magnani, 2020; Duchek, 2020; Teece et al., 2016)	Y1	We quickly detect changes in customer preferences on our platforms.
	Y2	We monitor platform policy/algorithm updates and competitor moves.
	Y3	We can rapidly update visuals, offers, and copy when conditions shift.
	Y4	Roles and workflows are easily rearranged to support new priorities.
	Y5	Insights from recent campaigns are documented and reused.
	Y6	We schedule regular reviews to refine our digital practices.

RESULTS AND DISCUSSION
Measurement Model Analysis
Validity Test

Instrument validity plays a crucial role in research, ensuring that each indicator accurately describes the construct being measured. In this study, validity testing was carried out by looking at two main parameters, namely loading factor and Average Variance Extracted (AVE). An indicator is considered valid if it has a loading factor value above 0.70 and AVE more than 0.50. Validity test can be seen in Table 3.

Table 3. Convergent Validity - Outer Loadings

Variable	Code	Outer Loadings	AVE	Information
Digital Dexterity	X1	0,702	0,564	Valid
	X2	0,708		Valid
	X3	0,772		Valid
	X4	0,810		Valid
	X5	0,732		Valid
	X6	0,773		Valid
Visual Strategy	M1	0,742	0,656	Valid
	M2	0,763		Valid
	M3	0,842		Valid
	M4	0,805		Valid
	M5	0,706		Valid
	M6	0,758		Valid
Adaptive Capacity	Y1	0,822	0,593	Valid
	Y2	0,844		Valid
	Y3	0,822		Valid

Y4	0,785	Valid
Y5	0,761	Valid
Y6	0,822	Valid

Based on Table 3, the test results obtained by all indicators are declared valid because they have met the required loading factor and AVE criteria. This shows that each indicator has a strong enough contribution in presenting the measured construct, so that this study can be declared valid for the next stage of analysis.

Reliability Test
In this study, reliability testing was conducted by looking at the Cronbach Alpha (CA) and Composite Reliability (CR) values. The results of the reliability test can be seen in Table 4.

Table 4. Reliability Test

Variable	Cronbach Alpha	Composite Reliability	Information
Adaptive Capacity	0,895	0,895	Reliable
Digital Dexterity	0,845	0,853	Reliable
Visual Strategy	0,863	0,870	Reliable

Based on Table 4, all constructs in this study have met the established reliability criteria. Where each construct shows a Cronchbach Alpha (CA) and Composite Reliability (CR) value above 0.70 which indicates that all variables in this model are classified as reliable.

Structural Model Analysis
R-Square Test
This test is used to see how much the independent variable is able to explain the variability of the dependent variable in this study. R-Square value can be seen in Table 5.

Table 5. R-Square Test

Variable	R-square	R-square adjusted
Adaptive Capacity	0,679	0,675
Visual Strategy	0,544	0,541

Based on Table 5, the r-square value for the adaptive capacity variable was 0.679. These results demonstrate that digital dexterity and visual strategy influence adaptive capacity by 67.9%, with the remaining 32.1% influenced by variables outside the research model. The r-square value for the visual strategy variable was 0.544. These results demonstrate that digital dexterity influences visual strategy by 54.4%, with the remaining 45.6% influenced by variables outside the research model. After observing the R-square value, it is also necessary to calculate the Q-square value to measure the accuracy of the model's observations and parameter estimates. The closer the Q-square value is to 1, the better the model. Q Square = 1 - [(1-R21) x (1-R22)
= 1 - [(1 – 0.679) x (1 – 0.544)]
= 0.854
Based on these results, the Q² value is 0.854, indicating that 85.4% of the variability in the observed data is explained by the model, with the remaining 14.6% explained by factors outside the research.

Hypothesis Test
Hypothesis testing is a test conducted to test the relationship between variables in a structural model. This analysis is conducted by looking at the value of the Path Coefficient and p-value to determine the strength and direction of the significance of the relationship between variables. The hypothesis test result can be seen in Table 6.

Table 6. Hypothesis Test

Variable	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Digital Dexterity -> Visual Strategy	0,738	0,745	0,036	20,563	0,000
Digital Dexterity -> Adaptive Capacity	0,331	0,329	0,081	4,116	0,000
Visual Strategy -> Adaptive Capacity	0,549	0,552	0,082	6,678	0,000
Digital Dexterity -> Visual Strategy -> Adaptive Capacity	0,405	0,412	0,066	6,115	0,000

The results of the hypothesis test in Table 6 show:
1. The effect of digital dexterity on visual strategy yielded a t-statistic greater than 1.96 (20.563 > 1.96), with a significance level less than 0.05 (0.000 < 0.05). Therefore, it can be concluded that digital dexterity has a positive and significant effect on visual strategy.
2. The effect of digital dexterity on adaptive capacity yielded a t-statistic greater than 1.96 (4.116 > 1.96), with a significance level less than 0.05 (0.000 < 0.05). Therefore, it can be concluded that digital dexterity has a positive and significant effect on adaptive capacity.
3. The effect of visual strategy on adaptive capacity yielded a t-statistic greater than 1.96 (6.678 > 1.96), with a significance level less than 0.05 (0.000 < 0.05). Therefore, it can be concluded that visual strategy has a positive and significant effect on adaptive capacity.
4. The effect of digital dexterity on adaptive capacity through visual strategy obtained a t-statistic value greater than 1.96 (6.115 > 1.96), with a significance level less than 0.05 (0.000 < 0.05). Therefore, it can be concluded that digital dexterity has a positive and significant effect on adaptive capacity through visual strategy.

Discussion

The transition from digital dexterity to visual strategy represents a significant consideration for entrepreneurs aiming to enhance their competitive capabilities in the dynamic landscape of small and medium enterprises (SMEs). Digital dexterity, characterized by the ability to effectively harness technology and adapt to digital changes, plays a crucial role in shaping visual strategies that serve as coherent systems of brand representation across diverse channels (Foroudi, Gupta, et al., 2017). Entrepreneurs with high digital dexterity can translate data into design elements, such as logos, color palettes, and multimedia content, that function collectively to engage audiences and communicate brand messages effectively. This seamless integration aligns with the dynamic-capabilities framework, where foundational digital competencies enable firms to build routines that enhance communication and design agility in response to market demands (Joensuu-Salo, 2021).

The significance of a well-structured visual identity as an adaptive amplifier cannot be understated. A strong visual strategy helps firms articulate strategic adjustments, be they in product assortment, promotion, or pricing, while maintaining brand recognizability and trust (Ikhsan et al., 2021). Prior research underlines that the arrangement and aesthetics involved in visual identity contribute significantly to brand equity and influence consumer perception, thereby affecting how strategic changes are interpreted in evolving market conditions (Herhausen et al., 2020). Consequently, a codified visual identity provides operational scaffolding that bridges the gap between strategic intents and consumer understanding, enabling firms to pivot quickly without sacrificing clarity or credibility.

Achieving adaptive capacity through digital dexterity involves navigating both direct and mediated pathways. The link between digital dexterity and adaptive capacity is supported by evidence suggesting that resilience in business is cultivated through enhanced capabilities that enable firms to anticipate, respond, and adapt effectively to change (Chinakidzwa & Phiri, 2020). Furthermore, visual strategy serves as a mediating mechanism that delineates how digital dexterity translates into successful adaptive outcomes. The ability to execute a compelling visual strategy effectively conveys adaptations to customers, thus reinforcing trust and coherence in brand messaging (De Reuver et al., 2017). In essence, the transfer of dexterity into practical performance manifests not solely through direct actions but flourishes within the realms of visual representation that render adaptations transparent and relatable to consumers. In conclusion, the interplay between digital dexterity, visual strategy, and adaptive capacity illustrates a comprehensive execution mechanism for SMEs. Entrepreneurial ventures that effectively cultivate digital capabilities are positioned to thrive amid market volatility, leveraging visual strategies to articulate changes adeptly and enhance customer engagement (Amelda et al., 2021). This multifaceted approach not only fosters

innovation and responsiveness but also strengthens overall market performance, establishing a resilient foundation in a competitive business environment.

Theoretical Implications

First, the results extend dynamic-capabilities reasoning by positioning Visual Strategy as an intermediary execution capability that operationalizes higher-order Digital Dexterity into Adaptive Capacity (Conz & Magnani, 2020; Ellström et al., 2022). Second, by demonstrating that visual identity consistency is a lever of adaptive communication, the study bridges branding/design insights with resilience scholarship, an integration still underrepresented in SME e-commerce research (Duchek, 2020; Luffarelli et al., 2018).

Managerial Implications

Managers should invest in dexterity micro-skills (platform analytics fluency, rapid A/B testing, creative-ops cadence) and pair them with codified visual systems (brand kits, catalog/thumbnail templates, motion rules) so that insight-to-asset lead times shrink and strategic shifts are communicated consistently. This capability-building emphasis aligns with recent Indonesian practitioner guidance that frames digital marketing innovation as a cycle of experimentation, content iteration, and analytics-based learning loops for MSMEs operating in platform-mediated markets (Sanapang et al., 2025). Such routinization aligns with evidence that digital transformation capabilities underpin design agility and execution quality in smaller firms (Conz & Magnani, 2020; Ellström et al., 2022) while visual structure and coherence support brand meaning during change (Luffarelli et al., 2018).

CONCLUSION

This study set out to examine how Digital Dexterity relates to Visual Strategy and Adaptive Capacity among e-commerce entrepreneurs, and whether Visual Strategy functions as the key transmission mechanism between dexterity and adaptation. The evidence supports all four hypotheses. H1 is supported: Digital Dexterity strengthens Visual Strategy, indicating that platform fluency, rapid experimentation, and analytics-to-design translation reliably materialize as coherent, deployable brand visuals across touchpoints. H2 is supported: Digital Dexterity enhances Adaptive Capacity directly, suggesting that digitally dexterous firms sense changes sooner, respond more coherently, and reconfigure operations with less friction. H3 is supported: Visual Strategy improves Adaptive Capacity, showing that codified, consistently applied visual systems accelerate how strategic pivots are communicated and understood by the market. H4 is supported: Visual Strategy mediates the relationship between Digital Dexterity and Adaptive Capacity, meaning a meaningful portion of dexterity's contribution to adaptation travels through the quality and consistency of visual execution. In short, digital skills matter most for adaptation when they are operationalized through a disciplined visual strategy that makes change visible, credible, and repeatable.

Translating these insights into practice, firms should cultivate dexterity micro-skills (platform analytics fluency, rapid A/B testing, and "insight-to-asset" workflows), codify a lightweight but binding visual system (brand kit, standardized thumbnail/hero templates, motion rules for short-form video) housed in a shared repository, and institutionalize a cadence for creative review and iteration so underperforming assets are replaced and campaign packs are pre-assembled ahead of platform moments. Robust processes and governance, clear roles, approval service levels, and a single end-to-end checklist, should anchor consistent execution, supported by a lean creative-ops stack (kanban for content, simple asset management, embedded checklists) and a compact monitoring set (turnaround time, asset reuse, cross-channel consistency audits) to ensure capability gains translate into adaptive outcomes, documentation of winning tests as "plays," peer learning sessions, and standardized onboarding help the improvements compound. Scholarly, the article specifies a capability cascade, higher-order Digital Dexterity expressed through a meso-level Visual Strategy that shapes Adaptive Capacity, bridging branding/design scholarship with dynamic-capabilities and resilience perspectives by treating Visual Strategy as an execution mechanism rather than a mere aesthetic layer; future research should track these dynamics longitudinally or experimentally, probe boundary conditions across platforms and product categories, pair perceptual measures with behavioral traces (creative-performance logs, customer interaction data), and test contingent factors (environmental turbulence, resource slack, team design capability) to map adjacent pathways by which dexterity is converted into enduring adaptive advantage.

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