

# Digital Leadership and Family Business Performance: Mediating Roles of Dynamic Capability and Organizational Flexibility

Nur Annisa Marthaher <sup>1\*</sup> Harif Amali Rivai <sup>2</sup> Hafiz Rahman <sup>3</sup>

<sup>1\*, 2, 3</sup> Universitas Andalas, Padang, Indonesia

Email: [marthaher.nannisa@gmail.com](mailto:marthaher.nannisa@gmail.com)

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The author(s) declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## ABSTRACT

**Purpose:** This study examines associations between digital leadership and family business performance, with dynamic capability and organizational flexibility as parallel mediators.

**Research Method:** A cross-sectional questionnaire survey of 97 respondents from family businesses in Padang, Indonesia, was analyzed using partial least squares structural equation modeling (PLS-SEM). Purposive sampling was applied.

**Results and Discussion:** Digital leadership showed no statistically significant direct association with perceived family business performance. It was positively associated with both dynamic capability and organizational flexibility, which in turn were positively associated with performance. Both indirect pathways were statistically supported.

**Implications:** The cross-sectional, nonprobability, self-reported design limits causal and population-level inference. The findings suggest that managers should combine digital leadership with capability development and adaptable organizational processes.

**Originality:** The study examines two parallel organizational pathways within a single model of family businesses in Padang.

**Keywords:** digital leadership; dynamic capability; organizational flexibility; family business performance; family firms.

## 1. Introduction

Family businesses contribute substantially to employment, output, and continuity across economies. A McKinsey analysis attributes more than 70% of global GDP and around 60% of employment to family-owned businesses (Leke *et al.*, 2025). Prior scholarship emphasizes their importance for business growth and governance in different regions (Briano-Turrent & Poletti-Hughes, 2017; Fang *et al.*, 2022; Miroshnychenko *et al.*, 2021). Small and medium-sized enterprises are an important setting for family business activity (Smith, 2024), including within the Indonesian MSME landscape (Tambunan, 2019). Family participation in ownership, strategic decisions, and management distinguishes these firms from non-family enterprises (Ratten, 2023), while kinship, continuity concerns, and established routines may shape resource allocation and adaptability (Mikušová & Stanovská, 2025; Miller & Le Breton-Miller, 2020).

Digital platforms, online markets, social media, and payment technologies have reshaped competition and consumer transactions (Antczak, 2024; Ly & Ly, 2024). For family businesses, digital



transformation entails more than technology adoption: it also requires learning, opportunity recognition, and resource reconfiguration (Soluk *et al.*, 2021). Its relationship with performance can depend on family objectives and characteristics (Issah & Calabrò, 2024). Family firms may confront tensions involving centralized authority, established practices, and the preservation of family values during transformation (Bouncken & Schmitt, 2022; Matarazzo *et al.*, 2021; Porfirio *et al.*, 2024; Rashid & Ratten, 2020). These tensions are also evident in recent accounts of competing pathways for family-firm digitalization (Bouncken *et al.*, 2026). Digital leadership may help coordinate technological priorities and organizational adaptation, although the performance consequences are not necessarily immediate.

Prior studies link digital leadership to performance through innovation, digital transformation, and organizational capabilities, but the direct relationship has not been uniformly supported (Husban *et al.*, 2021; Mollah *et al.*, 2024; Senadjki *et al.*, 2024; Zhang *et al.*, 2025). A dynamic capability perspective highlights sensing opportunities, seizing them, and reconfiguring resources (Warner & Wäger, 2019); related research connects such capabilities with innovation and performance (Jie *et al.*, 2025). Organizational flexibility may also support adaptive decision-making and performance through innovation (Arsawan *et al.*, 2022; Awais *et al.*, 2023). Taken together, these perspectives motivate the examination of complementary pathways between digital leadership and performance, particularly in family businesses operating in emerging-economy contexts.

This study tests the direct association between digital leadership and perceived family business performance and examines the parallel indirect pathways through dynamic capability and organizational flexibility. The integrated analysis of 97 survey responses from family business decision-makers in Padang offers context-specific evidence concerning the organizational mechanisms associated with digital leadership. Its contribution is to evaluate these two mediators jointly rather than to claim that either pathway is previously unknown or universally causal.

The article proceeds with a review of relevant literature and hypotheses, followed by research methodology, results and discussion, and a conclusion addressing implications and limitations.

## 2. Literature Review and Hypothesis Development

### 2.1 Conceptual Foundations

#### 2.1.1 Family Business Performance

Family businesses operate through overlapping family, ownership, and business systems, as illustrated by the established three-circle perspective (Cambridge Family Enterprise Press, 2018). Family control can shape strategy, governance, and intergenerational continuity (Pounder, 2015), while close personal relationships and family goals create distinctive possibilities for both cooperation and conflict (Mismetti *et al.*, 2025). Research identifies family involvement (Miroshnychenko *et al.*, 2024), long-term orientation (Chua *et al.*, 2025; Hernández-Perlines *et al.*, 2026), socioemotional wealth concerns (López-Nicolás *et al.*, 2024; Reina-Gutiérrez & Pla-Barber, 2026), and family-based social capital (Makó *et al.*, 2018) as relevant dimensions. Family-business publications discuss continuity and innovation postures (Calabrò *et al.*, 2021; Rondi *et al.*, 2019). More general organizational research illustrates variation in performance and the tension between stability and change (Frank *et al.*, 2010; Lin *et al.*, 2020).

Family business performance encompasses financial and nonfinancial outcomes rather than profitability alone. Family involvement may be associated with firm outcomes through distinct governance mechanisms (Miroshnychenko *et al.*, 2024). Work on family-owned SMEs highlights

business networks and performance (Tiwasing *et al.*, 2023), while other research links family-firm sustainability with innovation (Nguyen *et al.*, 2025). This study draws on perceived performance indicators covering relative overall results, market share, business growth, profitability, and innovation, adapted from Shin *et al.*, (2023). These are respondent perceptions, not independently audited objective financial outcomes.

### 2.1.2 Digital Leadership

Digital leadership refers to leadership practices that integrate digital technologies with organizational direction, people, and culture. Reviews describe it as an approach to coordinating technological and human dimensions of organizational transformation (López-Figueroa *et al.*, 2025; Tigre *et al.*, 2025). Wang *et al.*, (2022) likewise connect digital leadership with strategic digital orientation and organizational culture. From a resource-based perspective, the ability to mobilize technological knowledge, employee competencies, and strategic routines may constitute a valuable organizational resource; however, this theoretical positioning does not by itself establish a causal effect on performance.

Relevant leadership practices include digital literacy (Zhang *et al.*, 2025), responsiveness and agility (Škare & Soriano, 2021), an innovation orientation (Soluk *et al.*, 2021), collaboration and knowledge exchange (Bornhausen & Wulf, 2024), support for organizational change (Appleton *et al.*, 2025), and attention to people during technological transformation (Hoang *et al.*, 2025). Digital leaders can facilitate strategic renewal through the coordination of processes and resources (Warner & Wäger, 2019). Such coordination is especially relevant where family objectives and managerial decisions overlap (Calabrò *et al.*, 2021; Miroshnychenko *et al.*, 2024). The six digital-leadership indicators used in this study reflect technology awareness, digital ethics, managing resistance, knowledge sharing, and strategic use of technology (Mollah *et al.*, 2024).

### 2.1.3 Dynamic Capability

Dynamic capability describes an organization's capacity to integrate, build, and reconfigure resources in changing environments (Teece, 2018). Sensing, seizing, and transforming provide a useful conceptual structure for understanding adjustment to digital business conditions. Research concerning SME transformation connects these capacities with digital leadership and culture (Held *et al.*, 2025). A broader review of digital leadership also identifies adaptive competencies and institutional contexts as important considerations (Ushaka Adie *et al.*, 2024). In operational terms, sensing covers market scanning and recognizing relevant information; seizing includes incorporating knowledge and pursuing opportunities; and transforming involves applying knowledge and managing organizational change (Held *et al.*, 2025). These capacities may allow family businesses to respond to competitive pressures while retaining valued aspects of family governance. Dynamic capability is thus treated as an organizational mechanism potentially linking leadership with perceived business performance, not as evidence of transformation in the absence of longitudinal observation.

### 2.1.4 Organizational Flexibility

Organizational flexibility is the ability to adjust structures, processes, relationships, and resource deployment in response to environmental change (Cosa & Torelli, 2024; De la Gala-Velasquez *et al.*, 2023). Ni *et al.*, (2021) describe structural, resource, leadership, cultural, technological, and innovation-

related dimensions. These dimensions emphasize responsiveness to new information without assuming that every organization must abandon its established routines.

Evidence relating flexibility to operational performance and innovation suggests that adaptability may matter when technological and market conditions are uncertain (Ni *et al.*, 2021; Silva & Ferreira, 2017). Research on organizational resilience further illustrates the relevance of adaptive capabilities to organizational outcomes (Biswakarma & Bohora, 2025). In family enterprises, flexibility may enable operational adjustments while maintaining continuity in ownership and family relationships.

## 2.2 Hypothesis Development

### 2.2.1 Digital Leadership and Family Business Performance

Digital leadership has been examined in relation to organizational performance through digital culture, digital capabilities, commitment, and transformation (Cheng *et al.*, 2025; Mollah *et al.*, 2024; Senadjki *et al.*, 2024; Shin *et al.*, 2023). A positive direct association is theoretically plausible where leadership improves strategic digital coordination, but prior evidence also suggests that organizational intermediaries are important. The first hypothesis therefore addresses the direct path within the proposed model.

*H1. Digital leadership is positively associated with family business performance.*

### 2.2.2 Dynamic Capability and Family Business Performance

Dynamic capabilities can support innovation, adaptation, and the renewal of family-firm business models (Soluk *et al.*, 2021). Empirical research connects such capabilities with SME performance and competitive advantage (Dejardin *et al.*, 2023; Saputra *et al.*, 2024), including pathways through innovation (Zhou *et al.*, 2019). Recent evidence also discusses capability-based innovation and entrepreneurship in relation to business outcomes (Quientania *et al.*, 2025). This provides a basis for examining the performance path associated with dynamic capability.

*H2. Dynamic capability is positively associated with family business performance.*

### 2.2.3 Organizational Flexibility and Family Business Performance

Flexibility may support organizations in responding to external uncertainty through changes in work arrangements and resource use (Silva & Ferreira, 2017). Ni *et al.*, (2021) link flexibility, innovation, and competitiveness, while Dejardin *et al.*, (2023) highlight adaptive capabilities as relevant to SME resilience and performance. For family businesses, this suggests an association between flexibility and performance that warrants empirical examination.

*H3. Organizational flexibility is positively associated with family business performance.*

### 2.2.4 Digital Leadership and Dynamic Capability

Leadership may facilitate organizational learning and resource recombination, yet the direction of associations between digital leadership and capability development can vary across settings. Held *et al.*, (2025) examine how dynamic capabilities contribute to digital leadership and culture, while Zhang *et al.*, (2025) analyze digital transformation capability and performance. Tigre *et al.*, (2025) synthesize digital leadership as a developing construct related to adaptive capabilities. In the present model, leadership is posited as an antecedent of dynamic capability; this directional specification is theoretical rather than experimentally established.

*H4. Digital leadership is positively associated with dynamic capability.*

### **2.2.5 Digital Leadership and Organizational Flexibility**

Digital transformation may alter performance-management systems and the flexibility of organizational arrangements (Cosa & Torelli, 2024). Studies also relate digital leadership to strategic or organizational agility (Mollah *et al.*, 2024; Nugroho & Putri, 2025), while the wider leadership literature stresses coordination and adaptability (Tigre *et al.*, 2025). These arguments support testing the proposed leadership-flexibility relationship.

*H5. Digital leadership is positively associated with organizational flexibility.*

### **2.2.6 Parallel Mediating Pathways**

Digital leadership may be associated with performance through dynamic capabilities that facilitate sensing, seizing, and resource reconfiguration. Related mediation findings are reported for organizational performance and innovation (Budianto *et al.*, 2023; Cheng *et al.*, 2025; Jie *et al.*, 2025). Such findings motivate the dynamic-capability pathway, although they do not establish causal mediation in this cross-sectional study. A second pathway may operate through organizational flexibility. Strategic flexibility can be associated with innovation and organizational performance (Awais *et al.*, 2023), and research on strategic agility suggests that organizational adaptation may connect digital leadership with competitive outcomes (Mollah *et al.*, 2024; Nugroho & Putri, 2025). This provides the conceptual basis for examining flexibility as a parallel mediator.

*H6. Dynamic capability mediates the association between digital leadership and family business performance.*

*H7. Organizational flexibility mediates the association between digital leadership and family business performance.*

## **3. Research Method**

### **3.1 Design, Setting, and Sample**

The study used a cross-sectional quantitative survey to examine relationships among digital leadership, dynamic capability, organizational flexibility, and family business performance (Sekaran & Bougie, 2016; Sugiyono, 2013). Data were obtained from owners, managers, owner-managers, or business decision-makers in family-controlled businesses in Padang, Indonesia. Businesses were eligible if family members controlled ownership or management and the business had operated for at least two years. The study used purposive, nonprobability sampling; consequently, the sample should not be interpreted as a probability-based representation of all family firms in Padang (Saunders *et al.*, 2023).

Because a reliable sampling frame was unavailable, the manuscript used the Lwanga and Lemeshow (1991) calculation with  $Z = 1.96$ , an assumed proportion of 0.50, and precision parameter  $d = 0.10$  to set a numerical recruitment target of 96.04, rounded up to 97. This was a sample-size planning heuristic rather than a design-based margin of sampling error for a purposive sample. The main survey included 97 respondents.

### 3.2 Data Collection and Measurement

Primary data were gathered with a structured Google Forms questionnaire using five-point Likert-type response options. The initial instrument contained 55 candidate indicators adapted from earlier research: digital leadership (6 items), dynamic capability (14 items), organizational flexibility (30 items), and family business performance (5 items). The construct definitions and initial indicators are presented in **Table A1** (in APPENDIX), with literature sources including Mollah *et al.*, (2024), Held *et al.*, (2025), Ni *et al.*, (2021), and Shin *et al.*, (2023).

A pilot assessment involving 31 family-business respondents preceded the main survey. The reported pilot refinement reduced the 55 candidate items to 30 indicators: 6 digital-leadership items, 12 dynamic-capability items, 7 organizational-flexibility items, and 5 family-business-performance items. The item counts at this stage are summarized in **Table 1**.

**Table 1.** Pilot-stage instrument refinement

| Construct                         | Initial | Removed | Pilot retained |
|-----------------------------------|---------|---------|----------------|
| Digital Leadership (DL)           | 6       | -       | 6              |
| Dynamic Capability (DC)           | 14      | 2       | 12             |
| Organization Flexibility (OF)     | 30      | 23      | 7              |
| Family Business Performance (FBP) | 5       | -       | 5              |
| Total                             | 55      | 25      | 30             |

**Source:** Data processed (2026).

### 3.3 Analytical Procedure

The structural model was evaluated using partial least squares structural equation modeling (PLS-SEM), implemented in SmartPLS version 3.2.9 (Hair *et al.*, 2019; Hair *et al.*, 2022). The reported analysis covers indicator loadings, average variance extracted (AVE), Cronbach's alpha, composite reliability, discriminant validity using the heterotrait-monotrait ratio (HTMT), structural path coefficients, explained variance, effect sizes, and Q-square statistics. Hypotheses were evaluated using bootstrap t statistics and the reported directional decision rule of  $t > 1.645$  and  $p < .05$ . Specific bootstrap settings and confidence intervals are not reported.

## 4. Results and Discussion

### 4.1 Analysis Results

#### 4.1.1 Sample and Instrument Refinement

The main sample comprised 97 respondents drawn from family businesses in Padang across trade and services, manufacturing, agriculture and related activities, creative and digital industries, tourism, and culinary businesses. The participating businesses were characterized primarily as small firms, commonly operating for five to ten years, with no more than ten employees and some use of digital media or technology. Sector frequencies and respondent-level distributions are not reported.

The pilot-stage item counts are summarized in Table 2. The final measurement output includes 27 rather than 30 indicators: 6 for digital leadership, 9 for dynamic capability, 7 for organizational flexibility, and 5 for family business performance. Five of the 14 originally specified dynamic-capability indicators (DC.2, DC.5, DC.10, DC.13, and DC.14) are not present in the final model shown in Table 3.



The final model contains three fewer dynamic-capability items than the pilot-retained instrument, but the item-by-item transition between stages is not fully reported.

#### 4.1.2 Measurement Model Assessment

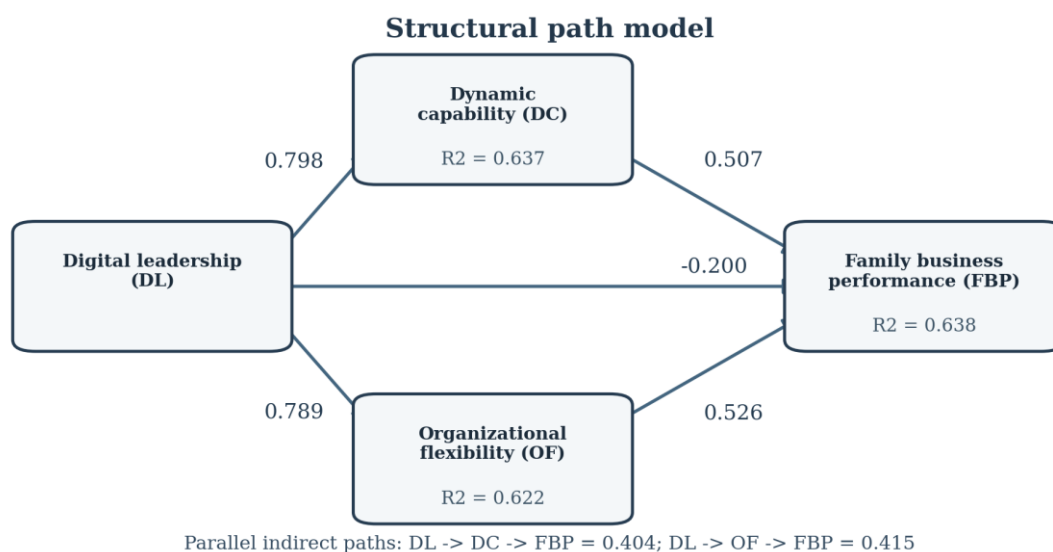
As reported in Table 2, final model indicator loadings range from 0.582 to 0.873. The four constructs have AVE values from 0.523 to 0.633, Cronbach's alpha values from 0.854 to 0.892, and composite reliability values from 0.892 to 0.915. These results support the reported aggregate convergent validity and internal consistency of the displayed 27-indicator measurement model (Hair *et al.*, 2022). They do not, on their own, establish that every individual item is optimally reliable.

**Table 2.** Final measurement loadings, validity, and reliability

| Construct                   | Item  | Loading | Alpha | CR    | AVE   |
|-----------------------------|-------|---------|-------|-------|-------|
| Digital leadership          | DL.1  | 0.847   | 0.885 | 0.907 | 0.582 |
|                             | DL.2  | 0.712   |       |       |       |
|                             | DL.3  | 0.758   |       |       |       |
|                             | DL.4  | 0.873   |       |       |       |
|                             | DL.5  | 0.705   |       |       |       |
|                             | DL.6  | 0.659   |       |       |       |
| Dynamic capability          | DC.1  | 0.790   | 0.855 | 0.892 | 0.523 |
|                             | DC.3  | 0.644   |       |       |       |
|                             | DC.4  | 0.746   |       |       |       |
|                             | DC.6  | 0.843   |       |       |       |
|                             | DC.7  | 0.750   |       |       |       |
|                             | DC.8  | 0.731   |       |       |       |
|                             | DC.9  | 0.654   |       |       |       |
|                             | DC.11 | 0.582   |       |       |       |
| Organizational flexibility  | DC.12 | 0.735   |       |       |       |
|                             | OF.1  | 0.765   | 0.854 | 0.896 | 0.607 |
|                             | OF.2  | 0.815   |       |       |       |
|                             | OF.3  | 0.763   |       |       |       |
|                             | OF.4  | 0.744   |       |       |       |
|                             | OF.5  | 0.816   |       |       |       |
|                             | OF.6  | 0.809   |       |       |       |
|                             | OF.7  | 0.739   |       |       |       |
| Family business performance | FBP.1 | 0.832   | 0.892 | 0.915 | 0.633 |
|                             | FBP.2 | 0.773   |       |       |       |
|                             | FBP.3 | 0.833   |       |       |       |
|                             | FBP.4 | 0.809   |       |       |       |
|                             | FBP.5 | 0.727   |       |       |       |

**Source:** Data processed (2026).

Figure 1 presents the structural paths and explained variances using the reported coefficients. The measurement indicator loadings are retained in Table 2 to avoid redundant numerical labels in the figure.

**Figure 1.** Structural path analysis

**Source:** Data processed (2026). Indicator loadings are presented in Table 2.

The HTMT values range from 0.703 to 0.891 (Table 3). The maximum value, between digital leadership and organizational flexibility, is below the stated 0.90 threshold but close enough to warrant cautious interpretation of their empirical distinctiveness.

**Table 3.** Discriminant validity (HTMT ratio)

| Construct | DC    | DL    | FBP   | OF |
|-----------|-------|-------|-------|----|
| DC        |       |       |       |    |
| DL        | 0.875 |       |       |    |
| FBP       | 0.822 | 0.703 |       |    |
| OF        | 0.796 | 0.891 | 0.830 |    |

**Source:** Data processed (2026).

#### 4.1.3 Structural Model and Hypothesis Testing

The model reports explained-variance values (R-square) of 0.637 for dynamic capability, 0.622 for organizational flexibility, and 0.638 for family business performance. The associated Q-square values are positive (Table 4), consistent with reported predictive relevance under the applied evaluation; these statistics alone should not be described as evidence of independently verified out-of-sample prediction.

**Table 4.** Reported explained variance and Q-square values

| Construct | R-square | Adjusted R-square | Q-square |
|-----------|----------|-------------------|----------|
| DC        | 0.637    | 0.633             | 0.307    |
| FBP       | 0.638    | 0.626             | 0.388    |
| OF        | 0.622    | 0.618             | 0.363    |

**Source:** Data processed (2026).

Effect-size estimates in Table 5 are largest for digital leadership predicting dynamic capability and organizational flexibility. The reported direct effect size for digital leadership predicting

performance is small, whereas dynamic capability and organizational flexibility show moderate effect sizes for performance. These are effect sizes within the specified model, not causal impacts.

**Table 5.** Reported structural effect sizes (f-square)

| Predictor | DC    | DL | FBP   | OF    |
|-----------|-------|----|-------|-------|
| DC        |       |    | 0.236 |       |
| DL        | 1.752 |    | 0.030 | 1.647 |
| FBP       |       |    |       |       |
| OF        |       |    | 0.265 |       |

**Source:** Data processed (2026).

Table 6 summarizes the five reported direct paths and two indirect paths. Digital leadership has a nonsignificant direct path to family business performance (H1 not supported), but positive significant paths to dynamic capability and organizational flexibility (H4 and H5 supported). Both mediators are positively associated with performance (H2 and H3 supported). The indirect effects via dynamic capability and organizational flexibility are positive and reported as statistically significant (H6 and H7 supported). The reported p values are consistent with directional, one-sided testing, and the negative H1 estimate does not support the prespecified positive-direction hypothesis.

**Table 6.** Direct and indirect hypothesis tests

| Hyp. | Path            | Beta   | t      | p      | Result        |
|------|-----------------|--------|--------|--------|---------------|
| H1   | DL -> FBP       | -0.200 | 1.415  | 0.079  | Not supported |
| H2   | DC -> FBP       | 0.507  | 2.689  | 0.004  | Supported     |
| H3   | OF -> FBP       | 0.526  | 2.513  | 0.006  | Supported     |
| H4   | DL -> DC        | 0.798  | 13.773 | < .001 | Supported     |
| H5   | DL -> OF        | 0.789  | 21.105 | < .001 | Supported     |
| H6   | DL -> DC -> FBP | 0.404  | 2.630  | 0.004  | Supported     |
| H7   | DL -> OF -> FBP | 0.415  | 2.341  | 0.010  | Supported     |

*Note.* The reported directional significance rule was  $t > 1.645$ ,  $p < .05$ . DL = digital leadership; DC = dynamic capability; OF = organizational flexibility; FBP = family business performance.

## 4.2 Discussion

### 4.2.1 Digital Leadership and Family Business Performance

The absence of a statistically significant direct path from digital leadership to perceived family business performance does not establish that leadership is ineffective, nor does the negative point estimate demonstrate a reliable adverse relationship. Instead, the results suggest that leadership may relate to performance through organizational mechanisms not captured by a direct path. This interpretation is consistent with studies highlighting digital transformation, agility, and commitment as intermediaries (Mollah *et al.*, 2024; Senadjki *et al.*, 2024; Tigre *et al.*, 2025). Family-based decision processes and existing business routines provide a plausible contextual explanation, although these were not separately tested as moderators in the present dataset.

### 4.2.2 Dynamic Capability and Family Business Performance

The positive association between dynamic capability and perceived performance is consistent with the view that firms benefit from identifying opportunities, integrating knowledge, and adjusting resource configurations (Dejardin *et al.*, 2023; Hernández-Perlines *et al.*, 2026; Quientania *et al.*, 2025). In family

enterprises, these capacities may complement established relationships and resources while supporting adaptation. However, the single-wave survey cannot determine whether capabilities preceded improved performance or emerged alongside it.

#### **4.2.3 Organizational Flexibility and Family Business Performance**

Organizational flexibility is also positively related to perceived performance, supporting a complementary pathway based on resource redeployment, collaboration, and responsive processes. Prior literature links flexibility with innovation and operational outcomes (Awais *et al.*, 2023; Ni *et al.*, 2021; Silva & Ferreira, 2017). Resilience-oriented research similarly illustrates the importance of organizational adjustment under changing conditions (Biswakarma & Bohora, 2025). Family firms may therefore benefit from maintaining continuity while allowing operational practices to evolve; this remains a managerial implication rather than a demonstrated causal mechanism.

#### **4.2.4 Digital Leadership and Dynamic Capability**

The strong positive path between digital leadership and dynamic capability aligns with the argument that leadership practices can accompany learning, knowledge exchange, and technology-enabled adjustment. Related research discusses leadership and adaptive resources within digital business transformation (Kraus *et al.*, 2022; Wang *et al.*, 2024). For family businesses, digital orientation may be particularly consequential when organizational knowledge and family priorities must be coordinated. The cross-sectional design does not establish temporal direction.

#### **4.2.5 Digital Leadership and Organizational Flexibility**

The strong positive association between digital leadership and organizational flexibility indicates that respondents describing more digitally oriented leadership also tended to report more adaptable organizations. Such an association is plausible where leaders promote communication, experimentation, and responsiveness (Cosa & Torelli, 2024; Mollah *et al.*, 2024; Nugroho & Putri, 2025; Tigre *et al.*, 2025). The close HTMT value for these constructs nevertheless calls for care in distinguishing their empirical meaning.

#### **4.2.6 Parallel Mediation Through Dynamic Capability and Organizational Flexibility**

Both indirect pathways were statistically supported in the reported PLS-SEM model. The dynamic-capability pathway is consistent with evidence concerning digital leadership, capability development, and organizational outcomes (Budianto *et al.*, 2023; Cheng *et al.*, 2025; Jie *et al.*, 2025; Wang *et al.*, 2024). The flexibility pathway accords with research relating organizational agility to the translation of digital initiatives into performance (Ciampi *et al.*, 2022; Cosa & Torelli, 2024; Mollah *et al.*, 2024; Nugroho & Putri, 2025). In combination, the findings suggest that capability building and adaptable processes may help explain why digital leadership is associated with performance indirectly even without a significant direct path. Statistical mediation in a cross-sectional survey, however, does not prove a temporal or causal sequence.

## **5. Conclusion**



The study found no statistically significant direct association between digital leadership and perceived family business performance in the estimated model. Digital leadership was positively associated with dynamic capability and organizational flexibility, each of which was positively associated with performance. The two indirect paths were also supported. These findings extend context-specific understanding of organizational pathways that may connect digital leadership with family-firm performance; they do not establish causation.

For owners and managers, the results support considering digital leadership together with market sensing, knowledge integration, employee collaboration, responsive operating routines, and appropriate technology adoption. Investments in digital tools may be more useful when accompanied by organizational learning and flexibility. These implications should be adapted to the scale and context of each family enterprise rather than treated as universally proven interventions.

The study is limited by its cross-sectional design, purposive sample from Padang, reliance on self-reported perceptions, and absence of objective longitudinal performance data. Future work could test the model in other regions and business sectors, distinguish family ownership and management configurations, incorporate objective outcomes, and examine longitudinal or alternative mediation structures. Stronger documentation of measurement refinement would also enhance replicability and evaluation of the instrument.

## Statement of Use of Generative AI

During the preparation of this work, the author used generative artificial intelligence tools to support the scientific writing process. All interpretations, analyses, and conclusions presented in this study are the sole responsibility of the author.

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## Corresponding author

Nur Annisa Marthaher can be contacted at: [marthaher.nannisa@gmail.com](mailto:marthaher.nannisa@gmail.com)



## Appendix

**Table A1.** Initial variables and candidate measurement indicators

| Construct                  | Code  | Candidate indicator                    | Source                        |
|----------------------------|-------|----------------------------------------|-------------------------------|
| Digital leadership         | DL.1  | Technology risk awareness              | Mollah <i>et al.</i> , (2024) |
|                            | DL.2  | Technology usage awareness             |                               |
|                            | DL.3  | Digital ethics establishment           |                               |
|                            | DL.4  | Innovation resistance management       |                               |
|                            | DL.5  | Digital knowledge sharing              |                               |
|                            | DL.6  | Technology direction for vision        |                               |
| Dynamic capability         | DC.1  | Market best practice                   | Held <i>et al.</i> , (2025)   |
|                            | DC.2  | Market trend responsiveness            |                               |
|                            | DC.3  | Systematic market sensing              |                               |
|                            | DC.4  | Information access capability          |                               |
|                            | DC.5  | Competitor monitoring                  |                               |
|                            | DC.6  | External knowledge integration         |                               |
|                            | DC.7  | Opportunity identification             |                               |
|                            | DC.8  | Technological knowledge transformation |                               |
|                            | DC.9  | Product/service innovation capability  |                               |
|                            | DC.10 | Change implementation capability       |                               |
|                            | DC.11 | Decision consistency in change         |                               |
|                            | DC.12 | Change project success                 |                               |
|                            | DC.13 | Change capability strength             |                               |
|                            | DC.14 | Change without disruption              |                               |
| Organizational flexibility | OF.1  | Organizational structure adaptability  | Ni <i>et al.</i> , (2021)     |
|                            | OF.2  | Specialized team development           |                               |
|                            | OF.3  | Cross-functional collaboration         |                               |
|                            | OF.4  | Departmental initiative                |                               |
|                            | OF.5  | Strategic partnership building         |                               |
|                            | OF.6  | Organizational learning capability     |                               |
|                            | OF.7  | Training and development emphasis      |                               |
|                            | OF.8  | Resource availability responsiveness   |                               |
|                            | OF.9  | Technology information utilization     |                               |
|                            | OF.10 | Financial allocation flexibility       |                               |
|                            | OF.11 | Technology trend awareness             |                               |
|                            | OF.12 | Openness to suggestions                |                               |
|                            | OF.13 | Employee motivation for innovation     |                               |
|                            | OF.14 | Respectful leadership behavior         |                               |
|                            | OF.15 | Fair and objective leadership          |                               |
|                            | OF.16 | Openness to change                     |                               |
|                            | OF.17 | Open communication culture             |                               |
|                            | OF.18 | Teamwork orientation                   |                               |
|                            | OF.19 | Cross-functional learning              |                               |
|                            | OF.20 | Employee well-being concern            |                               |
|                            | OF.21 | Technology importance awareness        |                               |
|                            | OF.22 | Technology adoption capability         |                               |
|                            | OF.23 | Technology implementation speed        |                               |
|                            | OF.24 | Technology foresight capability        |                               |
|                            | OF.25 | R&D investment orientation             |                               |
|                            | OF.26 | Innovative talent development          |                               |
|                            | OF.27 | Innovation awareness culture           |                               |
|                            | OF.28 | Process innovation encouragement       |                               |

| Construct                   | Code  | Candidate indicator             | Source                      |
|-----------------------------|-------|---------------------------------|-----------------------------|
|                             | OF.29 | Innovation financial support    |                             |
|                             | OF.30 | Innovation reward system        |                             |
| Family business performance | FBP.1 | Overall performance superiority | Shin <i>et al.</i> , (2023) |
|                             | FBP.2 | Market share strength           |                             |
|                             | FBP.3 | Business growth rate            |                             |
|                             | FBP.4 | Profitability level             |                             |
|                             | FBP.5 | Innovation performance          |                             |

**Source:** Data processed (2026).