



## **DIGITAL CAPABILITY AND HOUSEHOLD ECONOMIC RESILIENCE AMONG URBAN WOMEN ENTREPRENEURS**

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**Maghfirah Sari Azis<sup>1\*</sup>**

Department of Economic Education, Faculty of Economics and Business, Universitas Negeri Makassar

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### **Abstract**

This study examines the role of digital capability in strengthening household economic resilience among urban women entrepreneurs in an emerging economy. While digital transformation has been widely linked to firm-level performance, its broader socioeconomic implications remain underexplored, particularly in relation to household stability. The objective of this research is to investigate whether digital capability enhances household economic resilience directly or indirectly through business performance. Using survey data from women entrepreneurs in Makassar, Indonesia, the study applies Partial Least Squares Structural Equation Modeling to evaluate the measurement and structural models. The results indicate that digital capability significantly improves business performance, and business performance significantly strengthens household economic resilience. However, digital capability does not exert a direct effect on household resilience; its influence operates through business performance as a mediating mechanism. The findings highlight that enterprise-level productivity functions as a critical transmission channel linking technological capability to household stability. This study contributes to the literature by extending digital capability research beyond firm performance and demonstrating its indirect role in enhancing women's household economic resilience in emerging urban contexts.

## INTRODUCTION

The rapid expansion of the digital economy has fundamentally transformed entrepreneurial activity across emerging markets. Digital technologies increasingly shape how micro and small enterprises access markets, manage operations, and sustain competitiveness. A growing body of research demonstrates that digital capability enhances firm-level outcomes, including business performance, innovation, and strategic adaptability (Acayip et al., 2025; Jing et al., 2023; Mady et al., 2025; Wang & Zhang, 2024). Firms equipped with digital readiness and dynamic capabilities tend to achieve superior performance and greater resilience in uncertain environments (Alqam et al., 2025; Yao et al., 2026).

However, despite this strong evidence, existing studies predominantly focus on firm-level consequences, leaving the broader socioeconomic implications of digital capability insufficiently examined. This limitation is particularly critical in emerging economies, where micro and small enterprises are deeply embedded within household economic systems. For many women entrepreneurs, especially in urban contexts, business income serves as a primary source of household livelihood, directly influencing consumption stability, education investment, and the capacity to withstand economic shocks (Kabeer, 1999; Tanaji et al., 2025). From the perspective of the capability approach, development should be understood as the expansion of individuals' substantive freedoms and economic agency (Alkire, 2005). In this regard, digital capability may extend beyond a firm-level resource to function as a developmental asset that enhances household economic well-being.

Empirical evidence suggests that digital transformation contributes to productivity improvement, business model innovation, and organizational learning among small enterprises (Asadullah & Faik, 2026; Ding, 2026; Lu et al., 2026). In parallel, research on digital inclusive finance highlights its role in facilitating women's entrepreneurship and expanding economic participation (Yang et al., 2022; Zhang et al.,

2025). While these findings indicate that digital capability influences both performance and inclusion, the mechanism through which it translates into household-level resilience remains insufficiently clarified. Prior studies rarely integrate digital capability, business performance, and household economic resilience within a unified analytical framework.

This gap becomes more pronounced when considering the specific conditions faced by urban women entrepreneurs. Although digital environments provide access to broader markets and opportunities, women-led enterprises often encounter structural constraints, including limited access to formal credit, uneven digital literacy, and dual responsibilities between business and household roles (Javed et al., 2025; Khodor et al., 2024). Ideally, digital capability should enable women entrepreneurs to improve business outcomes and strengthen household stability. However, in practice, the extent to which digital capability translates into household economic resilience remains uncertain and underexplored, particularly in urban emerging economies such as Indonesia.

From a development economics perspective, household economic resilience refers to the ability to absorb, adapt to, and recover from economic shocks (Barrett & Constanas, 2014). Previous studies show that enterprise-generated income can support consumption smoothing and long-term welfare improvement (Banerjee et al., 2015; Suri & Jack, 2016). This suggests that business performance may function as a key transmission mechanism linking productive capabilities to household-level outcomes. Supporting this argument, recent evidence indicates that digital capability can enhance household resilience, particularly in rural contexts (Wang et al., 2025). Nevertheless, empirical evidence on urban women entrepreneurs remains limited, and the mediating role of business performance in this relationship has not been sufficiently addressed.

In addition, the entrepreneurship literature increasingly emphasizes dynamic capabilities and resource orchestration in digital environments as drivers of firm performance

(Rajagopal et al., 2024; Setiawan et al., 2025; Xing et al., 2025). While these perspectives explain how firms adapt and compete, they largely overlook the interconnected nature of business and household economic systems in emerging economies. For women entrepreneurs, the enterprise is not merely an economic unit but also a mechanism for securing household welfare and long-term economic stability.

Therefore, this study addresses these gaps by proposing an integrated framework that examines digital capability as a determinant of household economic resilience through business performance. Unlike prior studies that treat business performance as an end outcome, this research conceptualizes it as a mediating mechanism that connects firm-level capabilities to household-level resilience.

The originality of this study lies in three key contributions. First, it extends the digital capability literature beyond firm-level analysis by explicitly linking digital capability to household economic resilience. Second, it integrates the capability approach and resilience theory to explain how digital resources translate into broader socioeconomic outcomes. Third, it empirically examines the mediating role of business performance in the relationship between digital capability and household resilience within the context of urban women entrepreneurs in an emerging economy.

Based on this framework, the study addresses three research questions: (1) Does digital capability improve business performance among urban women entrepreneurs? (2) Does business performance enhance household economic resilience? (3) Does business performance mediate the relationship between digital capability and household economic resilience? By answering these questions using a variance-based structural modeling approach (Hair et al., 2019; Henseler et al., 2015), this study contributes to a more comprehensive understanding of how digital transformation influences not only firm performance but also the

economic resilience of entrepreneur-led households.

## **RESEARCH METHODS**

### **Research Design and Data**

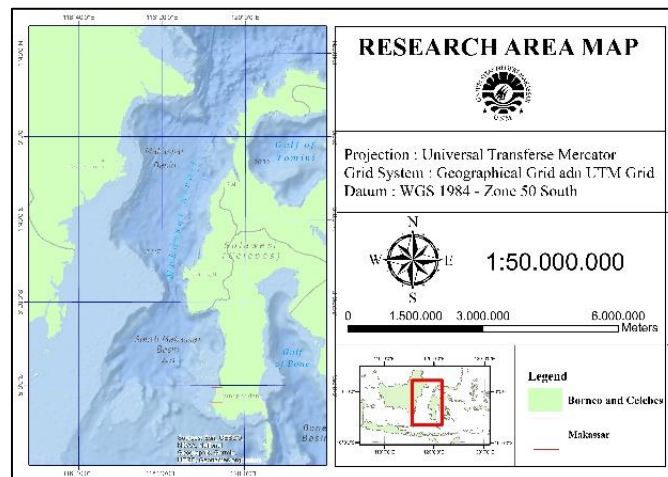
This study employs a quantitative explanatory approach to examine the relationships among digital capability, business performance, and household economic resilience. The study uses primary data collected through a structured questionnaire administered to women entrepreneurs operating micro and small enterprises. This design is appropriate for testing causal relationships among latent constructs and capturing respondents' perceptions regarding digital practices, business outcomes, and household economic conditions.

### **Research Area**

The study was conducted in Makassar, a major urban center in eastern Indonesia characterized by rapid digital adoption and a growing number of women-led micro and small enterprises. The city provides a relevant context for examining digital capability, as entrepreneurs operate in a competitive environment where digital tools increasingly influence marketing, transactions, and customer engagement.

In addition, women entrepreneurs in Makassar often rely on their businesses as a primary source of household income, which directly links business performance to household economic stability. This makes Makassar an appropriate setting to analyze how digital capability translates into both enterprise outcomes and household economic resilience. The geographical location of the research area is presented in Figure 1.

**Figure 1. Research Area Map**



## Population and Sampling

The population of this study consists of women entrepreneurs operating micro and small enterprises in Makassar. A purposive sampling technique was employed to ensure that respondents met criteria relevant to the research objectives. These criteria include: (1) the business is owned or primarily managed by a woman, (2) the business has been operating for at least one year to ensure operational stability, (3) the business utilizes digital tools or platforms in its activities, and (4) the business contributes to household income.

Based on these criteria, a total of 200 valid responses were obtained and included in the analysis. This sample size is considered adequate for Partial Least Squares Structural Equation Modeling (PLS-SEM) and supports stable parameter estimation (Hair et al., 2019).

### Measurement of Variables

All variables were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The measurement items were adapted from established studies to ensure construct validity and reliability (Fornell & Larcker, 1981).

Digital capability reflects the firm's ability to utilize digital tools and platforms in business processes, including marketing, transactions, and customer engagement. Business performance captures perceived improvements in key outcomes such as sales growth, profitability, and market expansion. Household economic resilience represents the household's ability to maintain financial stability and cope with economic shocks. The indicators and their corresponding sources are summarized in Table 1.

**Table 1.** Measurement of Variables

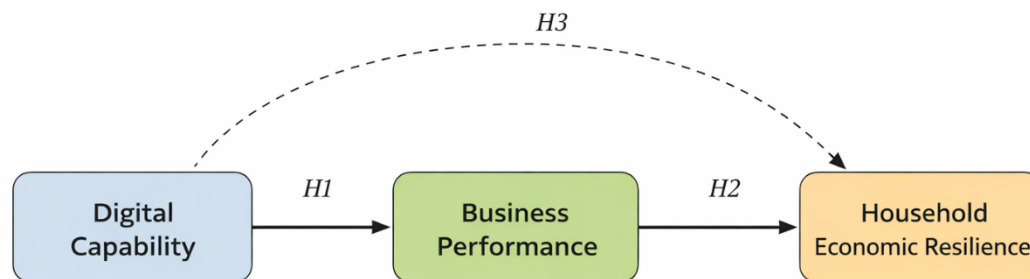
| Variable                             | Indicators                                                                                      | Source                                                       |
|--------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| <b>Digital Capability</b>            | Digital marketing use, online transaction management, digital integration, platform utilization | Acayip et al. (2025); Mady et al. (2025); Wang & Thai (2026) |
| <b>Business Performance</b>          | Sales growth, profitability, market expansion, customer acquisition, operational efficiency     | Jing et al. (2023); Zhang et al. (2023)                      |
| <b>Household Economic Resilience</b> | Ability to cope with shocks, consumption stability, income stability, financial security        | Barrett & Constanas (2014)                                   |

Source: Processed by author, 2026

**Research Model**

This study proposes a structural model in which digital capability influences business performance, which in turn affects household economic resilience. Business performance is also examined as a mediating variable that explains how digital capability translates into household-level outcomes.

This framework reflects the assumption that firm-level capabilities do not only generate internal performance gains but also produce broader socioeconomic impacts through improved business outcomes. The research model is illustrated in Figure 2.

**Figure 2.** Research Framework

Source: Processed by author, 2026

**Data Collection Procedure**

Data were collected between January and March 2026 through both online and offline questionnaire distribution to accommodate varying levels of digital access among respondents. Prior to the main survey, a pilot test was conducted to ensure clarity, reliability, and contextual appropriateness of the measurement items.

Participation was voluntary and anonymous, and respondents were informed about the purpose of the study. Completed questionnaires were screened to ensure

completeness and consistency before being included in the final dataset.

**Data Analysis Technique**

The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) following the approach recommended by Hair et al. (2019). This method is appropriate for examining complex relationships among latent constructs and is widely used in exploratory and prediction-oriented research.

The analysis was conducted in two main stages: evaluation of the measurement

model (outer model) and evaluation of the structural model (inner model). The measurement model was assessed to ensure the reliability and validity of the constructs. Indicator reliability was examined using outer loadings, with a recommended threshold of 0.70. Internal consistency reliability was evaluated using composite reliability (CR), while convergent validity was assessed using the average variance extracted (AVE), with a threshold of 0.50 (Fornell & Larcker, 1981).

The structural model was evaluated to examine the hypothesized relationships among variables. This included assessing path coefficients, t-values, and p-values to determine the significance of the relationships. In addition, the coefficient of determination ( $R^2$ ) was used to evaluate the explanatory power of the model.

To further examine the mechanism underlying the relationships, mediation analysis was conducted to assess the indirect effect of digital capability on household economic resilience through business performance.

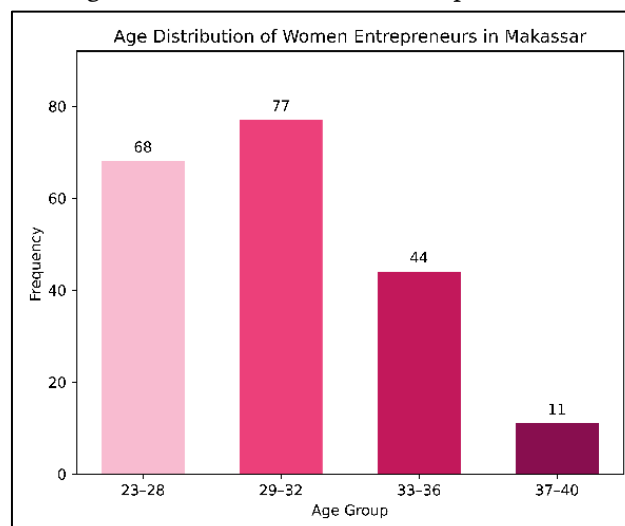
## RESULTS AND DISCUSSION

### Respondent Profile and Descriptive Statistics

Understanding the characteristics of respondents is essential to provide context for interpreting the structural relationships examined in this study. The profile of women entrepreneurs reflects not only demographic conditions but also the readiness to adopt digital capability and its potential impact on business performance and household economic resilience.

As presented in Figure 3, the majority of respondents fall within the 23–32 age range. This indicates that most women entrepreneurs are in their productive and digitally adaptive phase, where the ability to adopt and utilize digital tools is relatively high. This demographic condition supports the assumption that digital capability can play a significant role in enhancing business activities and outcomes.

**Figure 3.** Age Distribution of Women Entrepreneurs in Makassar



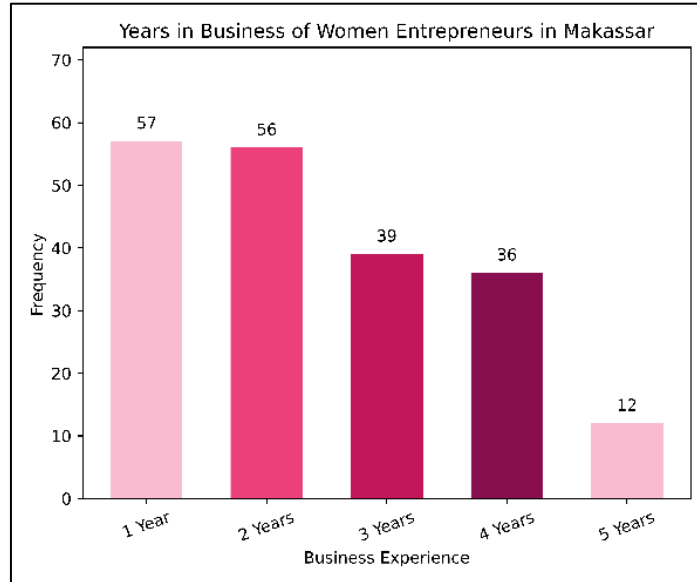
Source: Processed by author, 2026

In terms of business experience, Figure 4 shows that most respondents have been operating their businesses for one to two

years. This suggests that a large proportion of enterprises are still in the early stages of development. At this stage, digital capability

becomes particularly important as it can facilitate market entry, improve operational efficiency, and support business growth in competitive environments.

**Figure 4.** Years in Business of Women Entrepreneurs in Makassar

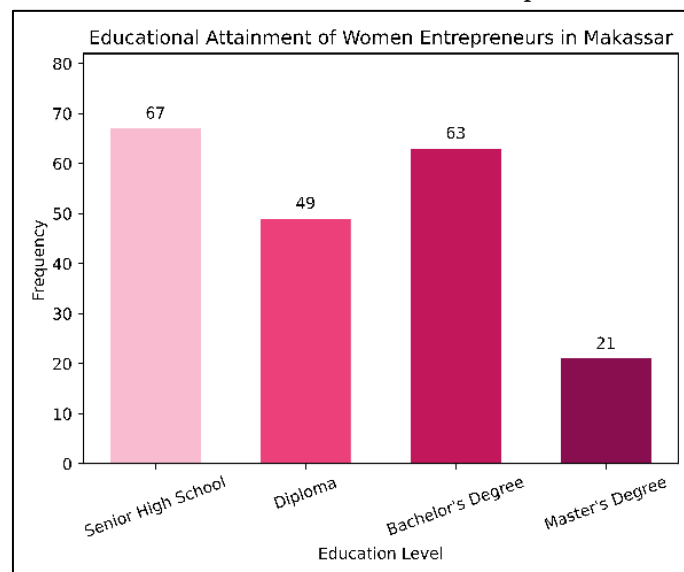


Source: Processed by author, 2026

Regarding educational background, Figure 5 illustrates that respondents have diverse levels of education, with the majority having completed senior high school and bachelor's degree. This distribution indicates that while formal education varies, it does

not necessarily limit the adoption of digital tools. Instead, digital capability may also be shaped by experiential learning and exposure to digital platforms in business practices.

**Figure 5.** Educational Attainment of Women Entrepreneurs in Makassar



Source: Processed by author, 2026

Overall, the respondent profile reflects a group of relatively young entrepreneurs with limited business experience but varying educational backgrounds. This condition provides a relevant empirical context for examining how digital capability contributes to business performance and, ultimately, to household economic resilience.

### Measurement Model Evaluation (Outer Model)

The measurement model was evaluated to assess the reliability and validity of the constructs. Indicator reliability was examined using outer loadings, with a recommended threshold of 0.70 (Hair et al., 2019). Indicators that did not meet this threshold were removed to improve model quality.

**Table 2.** Outer Loadings, Composite Reliability, and AVE

| Construct                            | Indicator | Loading | CR    | AVE   |
|--------------------------------------|-----------|---------|-------|-------|
| <b>Digital Capability</b>            | DC1       | 0,728   | 0,858 | 0,548 |
|                                      | DC2       | 0,771   |       |       |
|                                      | DC3       | 0,738   |       |       |
|                                      | DC5       | 0,777   |       |       |
| <b>Business Performance</b>          | BP1       | 0,763   | 0,866 | 0,564 |
|                                      | BP2       | 0,752   |       |       |
|                                      | BP3       | 0,732   |       |       |
|                                      | BP4       | 0,710   |       |       |
|                                      | BP5       | 0,797   |       |       |
| <b>Household Economic Resilience</b> | HR1       | 0,720   | 0,863 | 0,557 |
|                                      | HR2       | 0,741   |       |       |
|                                      | HR3       | 0,757   |       |       |
|                                      | HR4       | 0,757   |       |       |
|                                      | HR5       | 0,756   |       |       |

Source: Processed by author, 2026

As shown in Table 2, all retained indicators have loadings above the recommended threshold of 0.70, indicating satisfactory indicator reliability. One indicator of digital capability (DC4) was removed due to low loading, resulting in an improved measurement model.

Furthermore, all constructs exhibit composite reliability values above 0.70, indicating strong internal consistency. The average variance extracted (AVE) values exceed 0.50, confirming adequate convergent

validity (Fornell & Larcker, 1981). These results demonstrate that the measurement model satisfies the required reliability and validity criteria.

### Structural Model Assessment (Inner Model)

The structural model was evaluated to examine the hypothesized relationships among digital capability, business performance, and household economic resilience.

**Table 3.** Path Coefficients and Hypothesis Testing

| Hypothesis | Path                                                 | $\beta$ | t-value | p-value | Result        |
|------------|------------------------------------------------------|---------|---------|---------|---------------|
| H1         | Digital Capability → Business Performance            | 0,238   | 3,378   | 0,001   | Supported     |
| H2         | Business Performance → Household Economic Resilience | 0,429   | 6,212   | 0,000   | Supported     |
| H3         | Digital Capability → Household Resilience            | 0,145   | 1,896   | 0,059   | Not Supported |

Source: Processed by author, 2026

**Table 4.** Coefficient of Determination ( $R^2$ )

| Variable                      | $R^2$ | Interpretation |
|-------------------------------|-------|----------------|
| Business Performance          | 0,054 | Weak           |
| Household Economic Resilience | 0,165 | Moderate       |

Source: Processed by author, 2026

As shown in Table 3, digital capability has a positive and significant effect on business performance ( $\beta = 0.238$ ,  $p < 0.01$ ), indicating that digital capability enhances firm-level outcomes. Business performance also has a strong and significant effect on household economic resilience ( $\beta = 0.429$ ,  $p < 0.001$ ).

However, the direct effect of digital capability on household economic resilience is not significant ( $p > 0.05$ ), indicating that digital capability does not directly influence household-level outcomes.

As presented in Table 4, the model explains a modest proportion of variance in business performance ( $R^2 = 0.054$ ) and a moderate proportion of variance in household economic resilience ( $R^2 = 0.165$ ), indicating acceptable explanatory power.

#### Mediation Analysis

To further examine the mechanism underlying these relationships, mediation analysis was conducted.

**Table 5.** Mediation Results

| Path             | Coefficient | p-value | Interpretation  |
|------------------|-------------|---------|-----------------|
| DC → BP          | 0,238       | 0,001   | Significant     |
| BP → HR          | 0,429       | 0,000   | Significant     |
| DC → HR (direct) | 0,045       | 0,536   | Not Significant |

Source: Processed by author, 2026

As shown in Table 5, the effect of digital capability on household economic resilience becomes insignificant when business performance is included in the model, while the effect of business performance remains significant. This indicates that business performance fully mediates the relationship between digital capability and household economic resilience.

#### Discussion

This study aims to examine the role of digital capability in shaping business performance and household economic resilience among urban women entrepreneurs. The findings provide important insights into the mechanism

through which digital capability influences both firm-level and household-level outcomes.

First, the results confirm that digital capability has a positive and significant effect on business performance. This finding is consistent with previous studies indicating that digital tools enhance operational efficiency, market access, and customer engagement (Acayip et al., 2025; Mady et al., 2025). From a resource-based perspective, digital capability can be viewed as a strategic asset that enables firms to improve competitiveness in increasingly digitalized markets. In the context of women entrepreneurs, the ability to utilize digital platforms appears to be particularly

important for overcoming market limitations and expanding business opportunities.

Second, the findings show that business performance has a strong and significant effect on household economic resilience. This result supports resilience theory, which emphasizes the importance of stable income sources in enhancing a household's ability to cope with economic shocks (Barrett & Conostas, 2014). In this study, business performance functions as a key mechanism through which entrepreneurial activities contribute to household stability. Improved sales, profitability, and market reach translate into more stable income, which strengthens the household's capacity to maintain consumption and manage financial risks.

However, the results reveal that digital capability does not have a direct effect on household economic resilience. This finding suggests that digital capability alone is not sufficient to generate broader socioeconomic outcomes. Instead, its impact depends on how effectively it is translated into business performance. This result highlights a critical gap between technological adoption and economic outcomes, particularly in the context of women entrepreneurs who may face structural constraints such as limited access to financial resources and uneven digital literacy (Javed et al., 2025; Khodor et al., 2024).

More importantly, this study demonstrates that business performance fully mediates the relationship between digital capability and household economic resilience. This finding provides a more nuanced understanding of the role of digital capability by identifying business performance as a key transmission mechanism. In other words, digital capability contributes to household resilience only when it leads to tangible improvements in business outcomes. This extends prior research by shifting the focus from direct effects to mechanism-based explanations of how digital capability influences broader economic conditions.

From a theoretical perspective, this study integrates the capability approach and resilience theory to explain how firm-level resources translate into household-level

outcomes. The findings support the argument that the expansion of capabilities must be accompanied by effective utilization to generate meaningful welfare improvements (Alkire, 2005). Digital capability, therefore, should not be viewed merely as access to technology, but as the ability to transform digital resources into productive and income-generating activities.

From a practical perspective, the findings suggest that policies aimed at improving women's economic resilience should go beyond promoting digital adoption. It is equally important to enhance business performance through training, market access facilitation, and financial support. Without improvements in business outcomes, digital capability may not translate into meaningful improvements in household welfare.

Overall, this study contributes to the literature by providing empirical evidence that the relationship between digital capability and household economic resilience is indirect and mediated by business performance. This finding is particularly relevant in emerging urban contexts, where women entrepreneurs play a significant role in supporting household livelihoods.

## CONCLUSION

This study set out to examine whether digital capability strengthens household economic resilience among urban women entrepreneurs in an emerging economy and to clarify the mechanism underlying this relationship. The findings demonstrate that digital capability enhances business performance, and that improved performance subsequently reinforces household economic resilience. Importantly, digital capability does not exert a direct influence on household resilience; rather, its impact operates through enterprise-level outcomes.

These results confirm that productive capacity at the firm level functions as a transmission channel linking technological capability to broader socioeconomic stability. By integrating digital capability

theory with resilience frameworks and women's economic empowerment perspectives, this research advances the literature in three important ways.

First, it extends digital transformation research beyond firm performance to household-level outcomes, thereby bridging microenterprise and development scholarship. Second, it empirically validates business performance as a mediating mechanism through which technological capability contributes to household resilience. Third, it provides context-specific evidence from an emerging urban setting, enriching the understanding of how digital resources translate into tangible socioeconomic gains for women entrepreneurs.

Collectively, the study contributes to a more nuanced explanation of how digital capability operates not merely as a technological asset, but as a strategic pathway toward sustainable household economic resilience.

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