# Empowering Women-Fashion SMEs: Dynamic Capabilities, Agility, and Resilience

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**Abstract.** *This study investigates how digital transformation enhances organizational resilience in women's fashion SMEs through the roles of digital transformation, innovation capability and organizational agility, grounded in Dynamic Capabilities Theory. Utilizing non-probability purposive sampling, data were collected from 92 SMEs in the Jabodetabek region and analyzed via SEM-PLS and SPSS 15.0. Findings indicate that digital transformation significantly strengthens innovation capability and directly enhances organizational resilience, though it does not significantly affect organizational agility. Innovation capability emerges as a robust predictor of both organizational agility and resilience, while agility itself directly contributes to resilience. The study extends Dynamic Capabilities Theory to resource-constrained creative-sector SMEs in developing economies, demonstrating their capacity to cultivate strategic capabilities amid turbulence. It addresses a critical gap in the literature by empirically examining the interplay among digital transformation, innovation capability, agility, and resilience within an SME context. Practical implications suggest that support institutions, business coaches, and policymakers can leverage this model to design targeted development programs that foster adaptive, proactive, and resilient SMEs capable of navigating uncertainties such as volatile consumer demand, economic instability, and digital disruption.*

**Keywords**: *Dynamic capabilities theory; digital transformation; innovation capability; organizational agility; organizational resilience.*

## Introduction

Small and medium enterprises (SMEs) in Indonesia are facing increasing number of challenges due to market uncertainty, environmental disruption, and rapid technological change (Ratnaningtyas et al., 2025; Huang & Ichikohji, 2023). Despite contributing 61.07% to Indonesia's GDP and employing 97% of the workforce, SMEs in Indonesia are often resource-constrained and less resilient than large firms, taking longer to recover from crises (Samputra & Alfarizi, 2025; Lestari et al., 2024). In this context, organizational resilience defined as the ability to withstand, respond to, and recover from shocks has become critical (Velic et al., 2024). Several literatures on SME crisis responses draw on the theoretical underpinnings of dynamic capabilities to examine SMEs' adaptive responses to disruption which referred as 'resilience' (Lestari et al., 2024; Grego et al., 2024).

Innovation and agility are key drivers of resilience (Garrido-Moreno et al., 2024). Innovation enhances adaptability, risk tolerance, and competitive advantage, enabling SMEs to respond effectively to disruptions (Bakhtiar et al., 2025). Similarly, organizational agility the ability to sense, adapt, and act quickly strengthens strategic resilience by improving responsiveness and decision-making processes (Gong & Ribiere, 2025). Kwiotkowska, (2024) argued that digitally mature organizations can influence and respond to change more effectively, as they are more likely to be agile, collaborative, experimental and risk-tolerant. Several studies have emphasized the crucial role of digital transformation in creating organizational resilience and implementing agility, particularly within SMEs (Sagala & Őri, 2025; Őri et al., 2024).

This study focused on the SMEs in women's fashion industry. In Indonesia, this sector has been strongly affected by the crisis, as demand has slowed down drastically and continues to decline. Data from Department Statista Research (2025) revealed that the total revenue

growth for apparel industry in Indonesia showed the decline performance by total 0.7% by the end of February 2025. A report by Indonesian Chamber of Commerce and Industry (2024) also noted that the performance of SMEs women's fashion industry worsened in 2024, with its value decreased by 3.89%. The primary focus of this research is an object-based study of SMEs in the women fashion industry in Jakarta, Bogor, Depok, Tangerang, and Bekasi (Jabodetabek) area. Jabodetabek area serves as a cultural melting pot that shapes fashion trends and creative outputs of women-led SMEs (Islam et al., 2023). Moreover, the SME women fashion industry in Jabodetabek has demonstrated an increased capacity for digital technology adoption, a trend that contributes to a significant disparity in SME performance between urban and rural areas, notably in the fashion industry where digital marketing and e-commerce play critical roles (Judijanto et al., 2024).

Guided by dynamic capabilities theory, the proposed model argued that the pathway–digital transformation as sensing, innovation as seizing, and agility as reconfiguring collectively fosters SME's organization resilience. By testing this pathway, the study addressed a critical research gap and offered empirical insights for building more adaptive and resilient SMEs in Indonesia's dynamic fashion industry. Despite growing interest in these constructs, there remains a scarcity of research that explore and analyze these factors in depth. Another study mention that the interplay between these constructs and their impacts is underexplored, with few cohesive frameworks consolidating them within Indonesian contexts (Al Omoush et al., 2025). Furthermore, while emerging literature suggests that digital transformation can significantly affect organizational resilience and innovation capability; studies specifically focusing on these variables within Indonesian SMEs are limited, indicating the significant research gap (Surahman et al., 2023). To clarify the relationship between the previously discussed constructs, a bibliometric analysis

was conducted using VOSviewer software, focusing on the four main constructs and the object of the study: digital transformation, innovation capability, organizational agility, and organizational resilience, SMEs, and

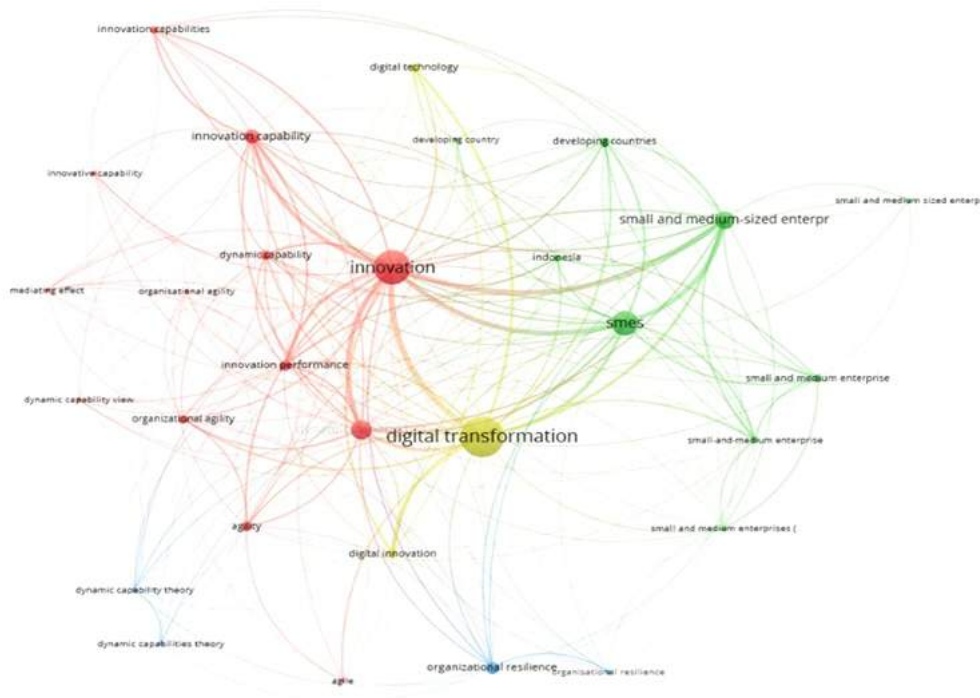dynamic capabilities theory. The mapping result of the VOSviewer are presented in Figure 1.



*Figure1.*
Result of Network Mapping with VosViewer

Based on the mapping result above, it is evident that the interrelationship between the four constructs concerning SMEs in Indonesia, within the context of dynamic capabilities theory, has been underexplored in prior research. This is illustrated by thin lines and the wide distances between the constructs in the network mapping result. This study aims to examine the influence pathway of digital transformation on organizational resilience through the strengthening of innovation capability and organizational agility in women's fashion SMEs in a developing country, specifically in the Jabodetabek area of Indonesia. This study is expected to provide empirical evidence on how digital transformation supports SME resilience by strengthening their innovation capabilities and organizational agility. The findings offer guidance for businesses and policy makers in

building more resilient and adaptive SMEs amidst fast-changing market dynamics such as in the fashion industry. Theoretically, this study extends the relevance of dynamic capabilities theory to the context of creative sector SMEs by showing that micro-based organizations (SMEs) are able to develop strategic capabilities despite their limited resources.

*Literature Review*
*Dynamic Capabilities Theory (DCT)*
The theory of dynamic capabilities was first introduced by Teece to explain how organizations need dynamic skills to adapt to their environment (Shiferaw & Kero, 2024). Recent study by Saeedikiya et al. (2024) and Abdurrahman et al. (2024) stated that dynamic capabilities represent an organization's ability to adapt, innovate, integrate, and respond their internal and external competencies in response

to rapid change in volatile environments by three main functions: sensing, seizing, and reconfiguring. Dynamic capabilities focus on deciding what the organization should do in the future, ensuring access to resources, and implementing appropriate organizational designs to face challenges and opportunities by three main function: sensing, seizing and reconfiguring functions (Bojesson, 2024; Siregar et al., 2023). The theory has predominantly been applied in the context of large corporations or multinational companies with the resources and complex structures to carry out strategic adaptation (Joussen et al., 2025). Meanwhile, the application of DCT theory into micro-scale organizations, particularly in SMEs contexts remains limited (Shao et al., 2025). In fact, the SMEs sector is in great need of adaptive capabilities to navigate turbulence and disruption market changes (Arraya, 2025; Siregar et al., 2023).

This study adapts DCT theory to examine how women's fashion SMEs in Jabodetabek area utilize digital transformation as a sensing function, develop innovation capability as a seizing function, and strengthen organizational agility as a tangible form of the reconfiguring function, which together form organizational resilience. The implementation of dynamic capabilities is crucial for SMEs as they often face resource constraints and lack of internal capabilities which can hinder their adaptability and competitiveness in digital environments (Zhang et al., 2022).

*Digital Transformation*
Digital transformation refers to the strategic use of digital technologies to enhance customer experiences, improve operational efficiency, develop new business model, create values for organizational success, and strengthen competitive advantages (Rahman et al., 2025). In the context of SMEs, digital transformation involves not only the adoption of platforms, but also reshaping the mindset and capabilities of organizations to respond digitally to a rapidly changing market (Omowole et al., 2024). Based on dynamic capabilities theory, this study identifies digital

transformation as sensing function that enable organization to seek, capture and respond to the new opportunities in challenging environments in to maintain competitive advantages (Rahman et al., 2025. Digital transformation facilitates the sensing process by enabling data collection, analysis and interpretation, thereby improving decision making, creating value, enhancing agility, fostering innovation, and building the foundation for resilience in SMEs context (Li et al., 2025; Saeedikiya et al., 2024). Moreover, digital transformation improves SMEs' ability to identify and understand market shifts, customer needs, and industry trends, all of aspects that essential for survival in a rapidly evolving business landscapes which is the essence of the sensing process (Teng et al., 2022).

In the era of technological advancement, digital transformation involves integrating digital technologies across organizational functions to innovate operational and value delivery processes (Vărzaru & Bocean, 2024). It acts as a key driver of innovation capability, helping organizations navigate challenges and strengthen their competitive advantage, particularly when dynamic capabilities are leveraged to align digital initiatives with organizational resources (Jie et al., 2025; Abdurrahman et al., 2024). Prior studies confirm a strong link between digital transformation and innovation capability (Jie et al., 2025). Digital transformation has a significant positive effect on agility by enabling the organizations to become more responsive and adaptive (Pelletier et al., 2025). By integrating digital technologies, the businesses can transform into agile organizations (Zhang et al., 2024). Digital transformation supports agility through improved collaboration, faster decision-making, and greater adaptability to changing environments (Xu et al., 2024). Empirical studies consistently confirm the positive impact of digital transformation on organizational agility (Zhang et al., 2024; Al-Darras & Tanova, 2022). As a strategic catalyst, digital transformation fosters innovation, adaptability, and market responsiveness,

helping organizations mitigate risks and recover quickly from crises which is a key of resilience (Zhan & Li, 2024; Zhang et al., 2025). For SMEs, digital transformation enhances resilience and supports long-term survival (Muhammad et al., 2025). Based on the explanations above, the hypotheses are:

*H1: Digital transformation positively and significantly affects innovation capability of SMEs.*

*H2: Digital transformation positively and significantly affects organizational agility of SMEs.*

*H3: Digital transformation positively and significantly affects organizational resilience of SMEs.*

*Innovation Capability*

Innovation capability refers to the ability of the organization to continuously transform knowledges and ideas into new products, processes, and systems for the benefit of the company and its stakeholders (Alkandi & Helmi, 2024). Study by Arsawan et al. (2022) stated that innovative SMEs tend to focus more on learning process and overcoming risk and uncertainty during turbulent times, which makes them more competitive and agile in facing disruptions. Kumar et al. (2025) and Zabel & O'Brien (2024) explained that innovation capability act as a driver of dynamic capabilities, directly enabling organization agility to adapt and navigate turbulent markets more effectively.

In this study, based on dynamic capabilities theory, innovation capability acts as seizing function which refers to an organization's ability to undertake strategic decisions and take proactive action in response to new opportunities identified in the sensing phase (Engelmann, 2024). The dynamic capabilities framework also emphasizes that SMEs need to seize new opportunities effectively by leveraging available resources and internal strengths to drive its innovation capability during turbulent times (Kim et al., 2025). The seizing component of innovation capability relates to SMEs' ability to capitalize on identified opportunities by ideas and technologies into strategies that drive new offerings and enhance agility and resilience among their competitors (Jie et al., 2025).

Study by Garrido-Moreno et al. (2024) asserted that organizations with greater innovation capability tend to achieve higher organizational resilience, and innovation capability is often regarded as the most critical trait of resilient firms (Olaleye et al., 2024). For SMEs, innovation capability enhances operational efficiency, adaptability, and competitive renewal, all of which are vital for resilience and sustainability (Astuty et al., 2024; Mulyana et al., 2016). It strengthens resilience by leveraging resources, fostering culture of innovation, improving business processes, and enhancing dynamic capabilities in disruption times (Zahoor et al., 2024; Zhang & Mohammad, 2024). Based on the explanation, the hypotheses are formed:

*H4: Innovation capability positively and significantly affects organizational agility of SMEs.*

*H5: Innovation capability positively and significantly affects organizational resilience of SMEs.*

*Organizational Agility*

Organizational agility is the capability of an organization to respond swiftly and effectively to changes and opportunities in highly volatile environment (Hagen et al., 2024; Harjanti & Gustomo, 2017). Referring to Asghar et al. (2025), organizational agility is the most prominent factors to strengthening resilience. Alshahrani & Salam (2022) noted that SME agility strengthens the ability to respond flexibly to market changes, thus fostering resilience. In this study, based on dynamic capabilities theory, organizational agility has a critical role as the reconfiguring function. Reconfiguring function refers to SMEs' capability to adapt their existing resources, processes, and structures or to create new ones in order to seize opportunities and mitigate potential threats in uncertain times (Thomas & Douglas, 2024). Evidence shows that SMEs that actively develop their reconfiguring capabilities improve their operational efficiency and responsiveness to market changes (Hafeez et al., 2025). Dynamic capabilities theory views agile organization as more adaptive in reconfiguring resources, processes, and strategies in volatile environment, where this adaptability is the

main determinant of resilience (Cao et al., 2025). Agility fosters a culture of responsiveness and innovation, empowering SMEs to test new ideas, adjust product offerings, or shift operational strategies without extensive delays, which directly impacts SMEs resilience in volatile environment (Yusuf et al., 2023). Based on the explanations above, the proposed hypothesis is:

*H6: Organizational agility positively and significantly affects organizational resilience of SMEs.*

*Organizational Resilience*
Organizational resilience is a multidimensional dynamic capabilities that enables organizations to survive, adapt, recover, and thrive during and after disruptions in turbulent environments and after the disruptions (Zhang et al., 2025). It encompasses the ability to absorb, learn, and proactively respond to disruptions, leading to improved performance and competitive advantage (Horák & Špaček, 2024). Resilience involves continuous processes of crisis handling and is closely linked to dynamic capabilities through shared emphasis on learning, coordination, adaptation, and innovation in dynamic environments (Paeffgen et al., 2024). In SMEs, resilience enables anticipation, absorption, response, and transformation of risks into opportunities, supported by adaptive strategies, innovation, and strong internal and external relationships (Grego et al., 2024). Integrating dynamic capabilities with sustainability principles further strengthens resilience, securing performance, and competitive advantage in volatile conditions (Wang & Jia, 2025; Zhang et al., 2025).

Below are the proposed research model and proposed hypotheses in this study.
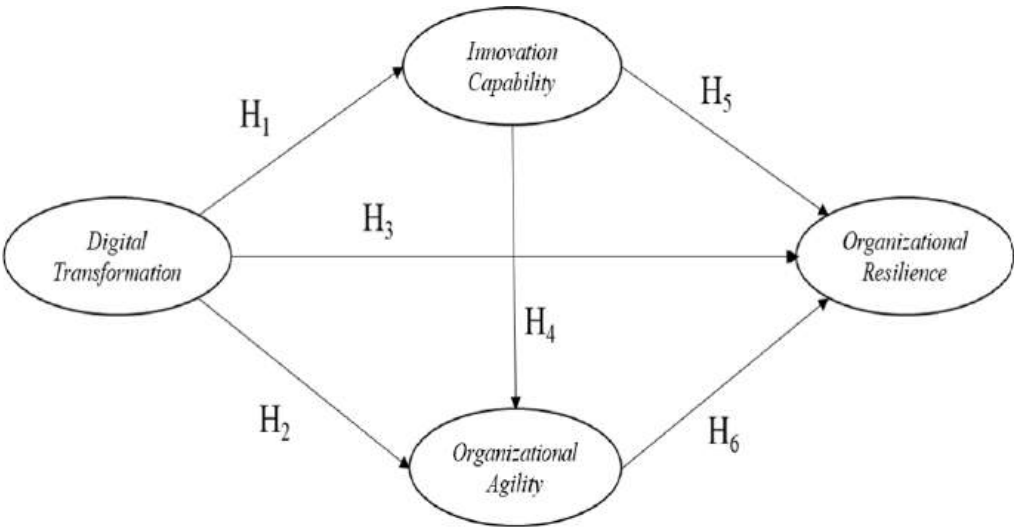


*Figure 2.*
Proposed Research Model

## Research Methodology

Data Collection
Data were collected via online questionnaires distributed to the owner or manager women's fashion SMEs located in the Jabodetabek area of Indonesia. From each company, one respondent was selected, either the owner or the manager, from family-owned small and medium-sized enterprises (SMEs) in the women's fashion sector. The participating companies were required to meet several criteria: they must have family-owned SMEs that has been in operation for at least five years, operate within the women's fashion MSME sector, generate a minimum annual income of 1,000,000 IDR, and utilize at least two digital technologies in their SMEs business

operations. A non-probability purposive sampling method was applied, using predefined criteria aligned with the research objectives (Campbell et al., 2020). According to Hair et al., (2019), the appropriate method to determine the sample size is by using the power table, which requires specifying the effect size significance level, power level and number of independent variables. Hair et al. (2019) recommend a power level of 80% and an effect size of 25% as the minimum acceptable standards, with a 5% significance level of error. In this study, three independent variables were assessed. Based on the power table method suggested by Hair et al. (2019), the minimum sample size required was 59. Before the main study commenced, a pilot study was carried out to assess the measurement model and to address potential sources of bias or dominance arising from uneven respondent distribution (Malmqvist et al., 2019; Munisamy et al., 2018). The pilot phase also served to identify any feasibility concerns related to the sampling strategy (Kunselman, 2024). A total of 103 responses were collected from managers or owners of 103 SMEs businesses operated in Jabodetabek area. However, after the screening process, only 92 questionnaires met the criteria for further analysis where exceeding the minimum threshold and deemed sufficient for analysis.

*Research Instrument Design & Data Analysis Technique*
The study utilized questionnaires as the main tool to gather data from the respondents. The measurement items utilized were adapted from prior research. Digital transformation was assessed using three items derived from Chu et al. (2019) and Zhang et al. (2021). Innovation capability was measured with five items taken from Troise et al. (2022) and Ravichandran (2018). Organizational agility was measured using six items adopted from the study conducted by Troise et al. (2022). Organizational resilience was assessed with four items adapted from Zhang et al. (2021). In total, 18 items were measured on a Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Data analysis was conducted

using Partial Least Square – Structural Equation Modelling (PLS-SEM) to assess both the inner and outer models, complemented by SPSS 15.0 for descriptive and supporting statistical data analysis.

*Respondent Profiles*
The table below presents the profiles of the 92 respondents who participated in this study. Demographic information includes gender, age group, education level, role within the women's fashion SMEs, length of business operations, number of employees, range of income in a year, and adoption of digital technology. The table below illustrates that the majority of respondents are women (77.17%). In terms of age, 44.57% are between 36-45 years, followed by 21.74% in the 26-35 age group. Regarding education level, most respondents hold a bachelor's degree (60.87%). Almost all respondents, 97.83% are SME owners in the women's fashion industry. Furthermore, 72.83% of SMEs have been operating for 5-10 years, and 16.30% for more than 10 years. Most of the respondents also only have less than 5 employees for their business (54.35%) with the range of income less than 2,000,000,000 IDR in a year (96.74%). Table 1 summarize the respondent profiles in this study:

Table 1.
*Respondent Profiles*

| No | Criteria | Category | Total | Percentage |
|---|---|---|---|---|
| 1 | Gender | Women | 71 | 77.17% |
| | | Men | 21 | 22.83% |
| 2 | Age Group | 26 - 35 years old | 20 | 21.74% |
| | | 36 - 45 years old | 41 | 44.57% |
| | | 46 - 55 years old | 17 | 18.48% |
| | | 56 - 65 years old | 14 | 15.22% |
| 3 | Education Level | Senior High School | 11 | 11.96% |
| | | Diploma | 21 | 22.83% |
| | | Bachelor Degree | 56 | 60.87% |
| | | Master Degree | 4 | 4.35% |
| 4 | Position | Business Owner | 90 | 97.83% |
| | | Manager | 2 | 2.17% |
| 5 | Length of Business | 5-10 years | 67 | 72.83% |
| | | More than 10 years | 15 | 16.30% |
| 6 | Amount of Employees | Less than 5 employees | 50 | 54.35% |
| | | 5-10 employees | 39 | 42.39% |
| | | More than 10 employees | 3 | 3.26% |
| 7 | Range of Income in a year | IDR 1,000,000 - IDR 2,000,000,000 | 89 | 96.74% |
| | | IDR2,000,000,0000 - IDR15,000,000,000 | 3 | 3.26% |
| 8 | Adoption of Digital Technology | E-Commerce (Shopee, Tokopedia, Bukalapak, etc) | 88 | 95.65% |
| | | Social Media Platforms (Instagram, Tiktok, Facebook, Twitter, Whatsapp, etc) | 90 | 97.82 |
| | | Cloud Computing (Google Drive, pCloud, MEGA, etc) | 17 | 18.47 |
| | | Data Analytics (R, SQL, Phyton, etc) | 4 | 4.34% |
| | | Artificial Intelligence (Virtual Assistant, Chatbot, Voicebot, etc) | 2 | 2.17% |

## Result and Discussion

*Evaluation of Measurement Model*
Two categories of measurements were conducted in the data processing of PLS-SEM: evaluation of the measurement model and evaluation of the structural model, (Hair et al., 2019). The measurement model was assessed through two tests: reliability and validity test (convergent validity and discriminant validity). A construct is considered reliable if the Composite Reliability (CR) value is above 0.7 (Hair et al., 2019).

An item is considered valid if the outer loadings are within the optimal range of 0.4-0.7 or higher than 0.7, and if the AVE value is greater than 0.5 (Hair et al., 2019). Indicators with loadings between the threshold of 0.4-0.7 can be removed, provided that their removal increases the AVE and CR values above the threshold (Hair et al., 2019). However, if removing these items does not raise AVE and CR values to exceed the threshold, they should be retained. Based on these criteria, items DT1

and OA1 were removed, as their elimination resulted in an increase in the AVE and CR values of their respective constructs. Table 2 displays the findings of the convergent validity and reliability tests conducted on the measurement model in this study.

Table 2.
*Results of Convergent Validity and Reliability Testing*

| Construct | Item/Indicators | Outer Loadings | AVE | CR |
|---|---|---|---|---|
| Digital Transformation (DT) | DT2 | 0.852 | 0.760 | 0.863 |
| | DT3 | 0.891 | | |
| Innovation Capability (IC) | IC1 | 0.722 | 0.517 | 0.854 |
| | IC2 | 0.524 | | |
| | IC3 | 0.685 | | |
| | IC4 | 0.846 | | |
| | IC5 | 0.778 | | |
| Organizational Agility (OA) | OA2 | 0.619 | 0.528 | 0.847 |
| | OA3 | 0.665 | | |
| | OA4 | 0.793 | | |
| | OA5 | 0.763 | | |
| | OA6 | 0.778 | | |
| Organizational Resilience (OR) | OR1 | 0.574 | 0.552 | 0.829 |
| | OR2 | 0.746 | | |
| | OR3 | 0.815 | | |
| | OR4 | 0.812 | | |

Discriminant validity testing was performed to determine the extent to which a construct was genuinely distinct from other constructs and captures phenomena not represented by other constructs according to empirical criteria by (Rönkkö & Cho, 2022). Cross-loadings value are considered valid if the loading on the construct exceeds that on other constructs, whereas the Fornell-Larcker criterion is deemed as valid discriminant if the values in the diagonal cells, representing the square root of each construct's AVE, surpass the highest off-diagonal correlation with other constructs (Hair et al., 2019). The outcomes of the discriminant validity assessment are presented in Table 3 and 4 which deemed as valid.

Table 3.
*Result of Discriminant Validity Testing- Cross Loadings*

| Indicators | Construct/Variable | | | |
|---|---|---|---|---|
| | **DT** | **IC** | **OA** | **OR** |
| DT2 | **0.852** | 0.331 | 0.211 | 0.275 |
| DT3 | **0.891** | 0.337 | 0.123 | 0.418 |
| IC1 | 0.277 | **0.722** | 0.300 | 0.460 |
| IC2 | 0.257 | **0.524** | 0.185 | 0.290 |
| IC3 | 0.331 | **0.685** | 0.241 | 0.363 |
| IC4 | 0.277 | **0.846** | 0.391 | 0.525 |
| IC5 | 0.258 | **0.777** | 0.397 | 0.534 |

Table 3.
*Continued*

| Indicators | Construct/Variable | | | |
|---|---|---|---|---|
| | **DT** | **IC** | **OA** | **OR** |
| OA2 | 0.306 | 0.298 | **0.619** | 0.400 |
| OA3 | 0.160 | 0.266 | **0.665** | 0.398 |
| OA4 | 0.074 | 0.341 | **0.793** | 0.383 |
| OA5 | 0.066 | 0.299 | **0.763** | 0.532 |
| OA6 | 0.101 | 0.370 | **0.778** | 0.497 |
| OR1 | 0.400 | 0.332 | 0.433 | **0.574** |
| OR2 | 0.246 | 0.473 | 0.506 | **0.746** |
| OR3 | 0.233 | 0.474 | 0.436 | **0.815** |
| OR4 | 0.323 | 0.537 | 0.445 | **0.812** |

Table 4.
*Result of Discriminant Validity Testing- Fornell Larcker*

| Constructs | **DT** | **IC** | **OA** | **OR** |
|---|---|---|---|---|
| DT | **0.872** | | | |
| IC | 0.383 | **0.719** | | |
| OA | 0.188 | 0.435 | **0.727** | |
| OR | 0.403 | 0.619 | 0.616 | **0.743** |

*Evaluation of Structural Model*

Prior to testing the research hypothesis in structural model evaluation, several metrics were assessed, including Variance Inflation Factor (VIF), R-Square (R2), F-Square (F2), and Q-Square (Q2). The evaluations are explained below:

*Variance Inflation Factor (VIF) Evaluation*

Variance Inflation Factor (VIF) is a metric that indicates the presence of multicollinearity issues in the relationships between constructs in a study (Hair et al., 2019). According to Hair et al. (2019), VIF value is recommended to be below five to indicate that no multicollinearity issues exist. Based on the test results in Table 5, the VIF values for the relationships between constructs were found to be below five, suggesting that the structural model in this study was free from multicollinearity issues.

Table 5.
*Result of VIF Evaluation*

| Construct | Digital Transformation | Innovation Capability | Organizational Agility | Organizational Resilience |
|---|---|---|---|---|
| Digital Transformation | | 1 | 1.172 | 1,17 |
| Innovation Capability | | | 1.172 | 1.39 |
| Organizational Agility | | | | 1.24 |
| Organizational Resilience | | | | |

*R-Square (R2) Evaluation*
R-Square (R2) represents the coefficient of determination, which measures the predictive accuracy of the model (Hair et al., 2019).

The coefficient of determination signifies the influence of the external latent variable on the endogenous latent variable. The upper limit of the $R^2$ value is 1, with a higher R-Square ($R^2$) value indicating greater predictive capability and accuracy of the research model (Hair et al., 2019).

The results of $R^2$ testing were 0.147 for Innovation Capability, 0.190 for Organizational Agility, and 0.559 for Organizational Resilience, which are considered sufficient for evaluating the structural model.

*F-Square (f2) Evaluation*
F-Square test is performed to examine how the $R^2$ value varies when specific exogenous factors are excluded from the model (Hair et al., 2019). The standards for evaluating the magnitude of F-Square (f2), as indicated by Hair et al. (2019), that an f2 below 0.02 indicates a weak effect; an f2 below 0.15 indicates medium effect, and above 0.35 indicates a strong effect. The f² results of this study are presented in Table 6.

Table 6.
*Result of F-Square (f²) Evaluation*

| Path | F-Square ($f^2$) | Information |
|---|---|---|
| Digital Transformation -> Innovation Capability | 0.172 | Medium |
| Digital Transformation -> Organizational Agility | 0.001 | Low |
| Digital Transformation -> Organizational Resilience | 0.066 | Medium |
| Innovation Capability -> Organizational Agility | 0.191 | Medium |
| Innovation Capability -> Organizational Resilience | 0.215 | Medium |
| Organizational Agility -> Organizational Resilience | 0.328 | Big |

*Q-Square (Q2) Evaluation*
Q-Square (Q2), also called the Stone-Geisser value, is a structural model assessment used to test the predictive usefulness of the structural model (Akbari et al., 2023). Hair et al. (2019) assert that if Q2 value exceeding 0, it indicates and demonstrates a well-structured model and strong predictive relevance. The findings of this study indicate that all Q2 values from this study exhibit strong structural predictive relevance. Table 7 presents the Q2 results for this study.

Table 7.
*Result of Q-Square (Q²) Evaluation*

| Variable | Q-Square ($Q^2$) | Information |
|---|---|---|
| Innovation Capability | 0.091 | Good |
| Organizational Agility | 0.129 | Good |
| Organizational Resilience | 0.267 | Good |

*Hypothesis Testing Evaluation*

Hypothesis testing was conducted using bootstrapping method with 5000 resamples in Smart-PLS at a significance level of 5% and confidence level of 95%. According to Hair et al. (2019), the t-value at this level is 1.96. Therefore, the hypothesis is considered significant if the p-value is less than 0.05 and the t-statistic is greater than 1.96. Based on the results of the hypothesis testing evaluation, one of the six tested hypothesis – the effect of digital transformation on organizational agility – was not significant. Meanwhile, the correlation between digital transformation and innovative capability as well as organizational resilience were supported. Moreover, innovation capability showed a strong positive effect on both organizational agility and organizational resilience. Organizational agility also demonstrated a significant relationship with organizational resilience. Table 8 presents the findings of the hypothesis testing in this study.

Table 8.
*Hypothesis Testing Result*

| Path | Path Coefficient | T Statistics | p-values | Information |
|---|---|---|---|---|
| H1: Digital Transformation → Innovation Capability | 0,383 | 3,712 | <0,001 | Significant, supported |
| H2: Digital Transformation → Organizational Agility | 0,024 | 0,243 | 0,808 | Insignificant, not supported |
| H3: Digital Transformation → Organizational Resilience | 0,184 | 2,308 | 0,021 | Significant, supported |
| H4: Innovation Capability → Organizational Agility | 0,426 | 5,066 | <0,001 | Significant, supported |
| H5: Innovation Capability → Organizational Resilience | 0,364 | 3,058 | 0,002 | Significant, supported |
| H6: Organizational Agility → Organizational Resilience | 0,422 | 4,164 | <0,001 | Significant, supported |

*Discussions*

The result of hypothesis testing showed that five hypotheses are significantly and positively supported which consist of H1, H3, H4, H5, and H6. The result of H1 implies that digital transformation significantly affects innovation capability of SMEs. Innovation capability in SMEs can be fostered by digital transformation as it allows them to access to new technologies, enhance their agility, adaptability and collaboration, improve operational efficiency, and gain insight based on data-driven analysis (Kahveci, 2025; Wang & Zhang, 2025). Moreover, these benefits are interrelated, enabling SMEs to develop new products, flexibly adapt to the market changes, and strengthen its sustainability and competitive advantage in highly dynamic environment (Chen & Wang, 2024; Mulyana & Sutapa, 2015). Based on dynamic capability theory, digital transformation primarily acts as the sensing capability of SMEs by providing advanced tools for data analysis and market intelligence (Rahman et al., 2025; Martins, 2023). The result of $H_3$ indicates that digital transformation significantly and positively affects organization resilience of SMEs. Digital transformation increases SME resilience by delivering real-time data that supports quicker decision-making, simplifying processes through digital tools, facilitating adaptive innovation and business models, thus

improving responsiveness to market changes (Zhan & Li, 2024). This strengthens their resilience and competitive advantage in a volatile environment (Sagala & Őri, 2025). From the perspective of dynamic capabilities theory, digital transformation functions as an effective sensing capability in this study. It enables SMEs to detect shifts in their environments and market dynamics, thereby increasing their resilience so they can adapt their internal capabilities, resources and strategies in response to the sensed changes (Awad & Martín-Rojas, 2024).

The theory underlines that digital transformation empowers SMEs by enhancing their sensing capabilities while also facilitating necessary adaptation to build resilience and sustainability (Hamidani & Ali, 2025; Chen et al., 2024). The result of $H_4$ explains that innovation capability significantly and positively influences organizational agility in SMEs. Innovation capability significantly enhances SMEs' agility to navigate turbulent market conditions and competitive landscape by equipping them with innovative tools to sense the dynamic changes in business environment, develop innovative and creative solutions and flexibly adapt to market demands '(Yusuf et al., 2023; Arsawan et al., 2022). Through the lens of the dynamic capabilities theory, innovation capability acts as a "seizing" function that allows businesses to capture new opportunities and undertake proactive adjustments, followed by organizational agility as a "reconfiguring" function —)(Pitelis et al., 2024. This allows allowing businesses to adapt their internal capabilities, resources and processes swiftly in response to new opportunities in ever changing and dynamic environments (Saeedikiya et al., 2024).

Hypothesis testing for $H_5$ showed that innovation capability significantly and positively impacts organization resilience. By fostering a culture of innovation, SMEs can develop new products and services that not only meet current market demands but also position them strategically against competitors, directly affecting their resilience

and sustainability (Al Barwari et al., 2025). From the perspective of dynamic capabilities theory, the innovation capability of SMEs, which act as a seizing function, amplifies their resilience in volatile business environment (Jie et al., 2025). This is due to seizing capacity of the innovation capability enables SMEs to seek and capitalize opportunities, helping them to navigate uncertainty and strengthening long run of resilience and sustainability (Garrido-Moreno et al., 2024; Chen, 2023). The seizing aspect of innovation capability supports SMEs' ability to recognize and exploit innovation opportunities through proactive market sensing and resource reconfiguration, which directly influences their resilience (Ng, 2025). The result of hypothesis testing for H6 showed that organization agility is positively and significantly affect organizational resilience. In the SME context, agility allows SME to swiftly detect and proactively respond through market changes, increase adaptability in turbulent times and maintaining effective and coherent operations during crises which these abilities are impacting resilience of SME (Gutiérrez-Broncano et al., 2024).

From the perspective of dynamic capabilities theory, organizational agility acts as reconfiguring function for SME to reconfigure operational process, adopt innovative solutions with decentralized decision-making, improve strategic flexibility in the face of disruptions (Arno, 2025; Hutter et al., 2025). This reconfiguring function increases the ability of SMEs to recover and achieve long term survival, making agility as a key element of SMEs resilience (Hutter et al., 2025; Zahoor et al., 2022). The result of hypothesis testing showed that the relationship between digital transformation and organizational agility in the SME context is insignificant and unsupported, as indicated in $H_2$. This finding contrasts with past studies, such as Troise et al. (2022), which suggested that digital transformation had positive and significant effects on organizational agility. This may be due to differences in the research context, as Troise et al. (2022) examined SMEs operating in developed countries with a larger business

scale and different characteristics. In addition, digital transformation is often considered ineffective to improve organizational agility in SMEs as its adoption tends to be reactive and symbolic, rather than strategic, creating "digital mimicry" without integration into core business processes (Ghezzi & Cavallo, 2020). Low digital literacy and inadequate supporting infrastructure make technology a burden rather than a key driver of agility for Indonesian SME, as its impact is highly dependent on the readiness of human resources and the ecosystem (Alexandro, 2025). Furthermore, in "survival" mode, SMEs tend to use technology only for short-term efficiency, neglecting experimentation and learning that are essential for agility (Kraus et al., 2022). Moreover, "ready-to-use" digital tools often create "digital rigidity", forcing SMEs to follow rigid workflows that conflict with their need for flexibility and improvisation (Scuotto et al., 2023). The finding suggested that women's fashion SMEs in Jabodetabek area have not prioritized the use of digital technology in their business operations to respond quickly to changes in customer needs. Meanwhile, digital tools can improve the ability of business to respond to market opportunities (Chen et al., 2024). Therefore it is critical for the business owner and managers to design and develop digital strategy for their SMEs (Canhoto et al., 2021).

The business owner and managers also suggested to adopt data-driven decision making for their business to strengthen organizational agility and enhance SMEs responsiveness to environmental dynamism (Kai, 2025). Moreover, the integration of digital technologies (such as cloud computing), offers SMEs a clear pathway to enhanced agility by automating both core and supporting business processes thereby improving their operational efficiency and effectiveness (Seppänen et al., 2025). Additionally, the strategic utilization of digital tools for order fulfillment is essential for enabling SMEs in the women's fashion sector to sustain competitiveness within an increasingly fast-paced and technology-driven market landscape (Sharabati et al., 2024).

## Conclusion

The study concludes that the digital transformation significantly contributes to the innovation capabilities and resilience of SME organizations directly. Although no significant direct relationship was found between digital transformation and organizational agility, digital transformation does influence innovation capabilities. Digital transformation drives product, process, and marketing innovation, which in turn strengthens the ability of SMEs to adapt quickly to market changes. Digital transformation also strengthens resilience by facilitating flexibility, rapid adaptation to market changes, and data-driven decision-making within an increasingly volatile organizational environment.

Meanwhile, organizational agility has a positive and significant effect on organizational resilience. These findings support dynamic capabilities theory, particularly its three functions: sensing (digital transformation), seizing (innovation capability), and reconfiguring (organizational agility). SMEs that can integrate digital technology with innovation are more likely to be agile and resilient in facing uncertainty. Organizational resilience, however, is built gradually, not from technology adoption alone. Therefore, digital transformation, innovation capabilities, and organizational agility are essential elements that should not be overlooked in strategies to strengthen SME resilience. Overall, this model provides a strong empirical framework for understanding how women's fashion SMEs can survive and thrive amid rapidly changing market dynamics. This study also provides empirical evidence that digital transformation does not directly create SME organizational resilience, but operates through strengthening organizational innovation capabilities and agility. This indicates that digitalization is only an effective initial driver when followed by the ability to innovate and adapt. These findings reinforce the relevance of dynamic capabilities theory at the micro level and provide empirical evidence on how SMEs gradually build resilience in dynamic environments.

Empirically, the research offers strategic guidance for women's fashion SMEs to use digital transformation not just for marketing or transactions, but as a means to build sustainable capabilities. It highlights the importance to pair digital tools with innovation and organizational agility, enabling SMEs to systematically respond to market changes and trends. Using a process-based approach—sensing trends via social media, innovating products, and quickly adjusting production—helps SMEs remain adaptive and resilient. Finally, this model also provides a foundation for support programs by institutions, coaches, and governments, particularly in Jabodetabek, to strengthen SMEs against digital disruption and economic challenges.

*Theoretical Implications*
This study provides a foundational theoretical contribution by reinforcing the relevance of dynamic capabilities theory in the context of creative sector SMEs operating in a digital and dynamic environment. By proposing a gradual path from digital transformation to organizational resilience through innovation and agility, this study empirically describes the three main functions of dynamic capabilities: sensing (through digital transformation), seizing (through innovation capability), and reconfiguring (through organizational agility). This model shows that resilience is not formed directly from technology adoption, but rather emerges from a series of interrelated strategic capabilities. These findings expand the application of dynamic capabilities theory to micro and SME-based organizations. This proves that even with limited resources, SMEs can still develop adaptive strategic capabilities. Furthermore, this study makes a conceptual contribution by emphasizing organizational agility as a key manifestation of the reconfiguring function in today's rapidly changing business world, particularly in the fashion sector. In the context of SMEs that are highly responsive to social media trends and customized demand, agility is not merely operational efficiency, but a form of strategic capability that enables rapid adaptation to

market pressures. By integrating agility as a central construct between innovation capability and resilience, this study fills a gap in the literature that has so far paid little attention to the dimensions of speed and flexibility in the process of building organizational resilience at the micro level. Overall, this model offers a more realistic, dynamic, and contextual theoretical framework for understanding how SMEs can survive and thrive amid digital disruption.

Moreover, the research model was based on DCT theory where identify three functions of dynamic capabilities including sensing (digital transformation), seizing (innovation capabilities), reconfiguring (organizational agility) that affect organizational resilience. Drawing on empirical evidence from women's fashion SMEs in the Jabodetabek area, two components of the model appear generalizable, while one is context-dependent. First, the pathway whereby digital transformation enhances innovation capability, which subsequently strengthens innovation capability, yet in turn fosters organizational agility and ultimately contributing to organizational resilience, exhibits a significant and theoretically consistent effect aligned with DCT theory logic.

This mechanism is likely to hold across sectors because it reflects a fundamental adaptive capacity that organizations rely on when responding to environmental turbulence. Second, the direct influence of digital transformation on organizational resilience also appears generalizable, particularly in sectors that rely heavily on data-driven decision-making and rapid responsiveness. In terms of contextual elements, the absence of a significant link between digital transformation and agility (H2 not supported) captures a sector-specific reality whereas the digital adoption among urban fashion MSMEs is often reactive, symbolic, and largely confined to marketing activities, a pattern shaped by limited resources and operational constraints. At the same time, the proposed research model

has the potential to be transferred to other sectors under certain conditions, first when the organizational environment is dynamic, second when digitalization is embedded strategically rather than used merely as a functional tool in the organization, and when the organization possesses at least a baseline capacity for innovation and process reconfiguration. Conversely, the model is less applicable to sectors that are relatively stable, capital-intensive, or subject to minimal digital pressures.

*Managerial Implications*

The study suggests digital transformation, innovation capability, and organizational agility can promote resilience of SMEs. Digital transformation, innovation capabilities, and organizational agility can promote resilience. Furthermore, digital transformation also promotes innovation capabilities, and innovation capabilities can promote organizational agility. Based on these findings, this study develops managerial implications for women's clothing SMEs in Jabodetabek area of Indonesia. SMEs are among the most vulnerable businesses when affected by crises, especially in terms of finance and resources (Lestari et al., 2024).

This study recommends that leaders of women's clothing SMEs must ensure that employees receive training in the use of digital technology to support commercial activities and the digitization of business processes. Top management can design simple system to facilitate the transition from traditional to digital business transactions, and through these systems, guide employees in using digital tools effectively. SMEs are also encouraged to be more proactive in seeking innovative ideas and enhancing creativity to meet current market trends. Owners can involve employees in knowledge sharing to generate creative and innovative ideas, while also conducting studies on competitors and trend analysis through the use of digital technology. This initiative enables SMEs to identify market trends and apply the information obtained for decision making yet be more innovative. Digital transformation and

innovation capabilities also increase SME resilience by improving operational efficiency, fostering organizational adaptability, and allowing quick response towards market changes and disruptions in dynamic environment (Zhang et al., 2025).

Other than that, the findings show that women's fashion SMEs in the Jabodetabek area have not yet made digital technologies as a priority strategy to enhance agility for helping the businesses to identify and act on market opportunities more effectively. This highlights the need for SMEs owners and managers to develop clear digital strategies and to adopt data-driven decision-making to strengthen their agility in a changing environment. Integrating digital technologies such as cloud computing can also support agility by automating key processes and improving overall efficiency for SMEs business processes. In addition, using digital tools to manage order fulfillment is increasingly important for women's fashion SMEs to stay competitive in today's fast-moving, technology-driven market.

Furthermore, organizational agility helps SME top management to realize the importance of adaptation in today's uncertain business environment. Agility plays a key role in SME resilience by enhancing adaptability to market changes, increasing responsiveness to new opportunities, and promoting continuous innovation and learning (Omowole et al., 2024). Thus, the study suggests that the top management of SMEs should strengthen organizational capabilities, particularly innovation capabilities and digital transformation capabilities, to build SME resilience and agility.

This study also provides strategic guidance for women's fashion SMEs in utilizing digital transformation not only as a marketing or transaction tool but as a catalyst for building sustainable capabilities. By recognizing that digital transformation must be followed by product/service process innovation as well as enhanced organizational agility, SMEs can

respond more systematically to changing trends, rapid demand, and market disruptions. For example, the SME owners can detect customer interests and trends by using social media (digital transformation as sensing), SMEs can design new collections through social media to observe trending styles.

The digital-driven innovation allows the SMEs managers & owners to stay ahead of its competitors (innovation capabilities as seizing), then quickly adjust production process using CRM system database to meet orders where the owners and managers can quickly tailor promotions to specific customer groups, allowing the business to respond agilely to market change (agility as reconfiguring), enabling them to survive and resilient even when trends shift drastically. This offers SMEs a process-based approach rather than spontaneous reactions.

For SME support institutions, business coaches, and local governments, this model provides a foundation for developing more comprehensive development programs for SMEs in the future. For example, the SME support institution can provide digital business mentorship program, building women fashion innovation labs program for SMEs, and training for digital literacy and technology adoption program. In Jabodetabek area, which serves as the center of the women's micro women's fashion ecosystem, this model can act as a reference for building SMEs that not only survive but also remain adaptive and resilient in the long term, particularly in the face of digital disruption, consumer shifts, or economic crises.

## Limitations
This study has several limitations that should be considered when developing and improving future research. This study employed a cross-sectional approach, which limits its ability to capture the dynamic and evolutionary nature of dynamic capabilities over time. Although PLS-SEM is suitable for prediction and path analysis with moderate sample sizes, it does not test structural models as rigorously as

covariance-based SEM (CB-SEM), making the findings more explanatory than confirmatory. The sample was limited to 92 women's fashion SMEs in Jabodetabek area, thus the generalizability of the findings to other sectors or non-urban areas requires further examination. In the context of this study, the women's fashion industry is particularly responsive to shifting trends and relies heavily on social media to engage with consumers. This reliance fosters distinctive patterns in the adoption of digital transformation, where this patterns that are less evident in the service industry. On the other hand, the geographic characteristics of Jabodetabek, as a center of the digital economy with advanced infrastructure and technological access, limit the relevance of these findings for SMEs in rural areas or regions with limited digital resources. This limitation underscores the need to replicate the study across different sectors and regions to externally validate the robustness of the model. The research model also did not include intervening variables such as digital leadership, ecosystem support, or the level of digitalization or networking capability, which may strengthen the relationships among constructs. In addition, expanding the model with moderation or mediation variables, as well as adopting mixed methods, can provide deeper insight into understanding of the adaptation process of SMEs in the digital era.

## Declaration

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