

THE EFFECT OF DIGITAL TRANSFORMATION ON WOMEN ENTREPRENEURIAL PERFORMANCE: A TAM-BASED ANALYSIS

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Abstract: Digital technology's explosive growth has changed the face of entrepreneurship and given women business owners new ways to improve their company's success. This research addresses the impact of the digital revolution on women's performance as entrepreneurs via the lens of the Technology Acceptance Model (TAM). It examines the interconnections among Perceived Ease of Use (PEU), Perceived Usefulness (PU), Attitudes Toward Use (ATU), Behavioral Intention (BI), and Women Entrepreneurial Performance (WEP). The study employed regression analysis to examine data from 100 female entrepreneurs in Chengalpattu District. The results indicate that PU and PEU substantially affect ATU, which in turn influences BI and ultimately WEP. Women entrepreneurs who perceive digital tools as advantageous and user-friendly are more inclined to incorporate them into their enterprises, hence improving efficiency and financial growth. However, obstacles such as limitations in computer literacy and economical limitations limit adoption. The report suggests policy changes, financial assistance, and focused training as ways to promote digital inclusion.

Keywords: Digital Transformation, Women Entrepreneurs, Technology Acceptance Model (TAM), Entrepreneurial Performance.

1. INTRODUCTION

The rapid advancement of Information and Communication Technology (ICT) has revolutionized the entrepreneurial landscape, providing businesses with innovative tools to enhance efficiency, market reach, and competitiveness (Ollo-lópez & Aramendía-muneta, 2012). For micro, small, and medium enterprises (MSMEs), ICT adoption has become an essential driver of business success, facilitating seamless communication, operational automation, and customer engagement (Performance, 2022). Despite the potential benefits of digital transformation, women entrepreneurs continue to face structural barriers such as limited financial access, socio-cultural constraints, and restricted mobility, which hinder their ability to leverage ICT effectively (Kamberidou, 2020). By integrating digital tools, women entrepreneurs can overcome these challenges, enhance business performance, and contribute to economic development (Chatterjee & Kar, 2020). However, the rate of ICT adoption among women-led MSMEs remains inconsistent due to variations in perceived ease of use (PEU), perceived usefulness (PU), attitudes toward technology adoption, and behavioral intention (BI) (Venkatesh & Davis, 2000).

The Technology Acceptance Model (TAM) offers an effective theoretical framework for analyzing the usage practices of technological advances among entrepreneurs. TAM posits that PU and PEU are key determinants of technology acceptance, influencing attitudes toward use (ATU) and behavioral intention (BI), which subsequently impact actual usage (Davis, 1989). Research suggests that entrepreneurs who perceive ICT as user-friendly and beneficial are more likely to integrate it into their business operations, leading to enhanced productivity, market

expansion, and improved financial performance (Tarutė & Gatautis, 2014). Studies have further indicated that positive attitudes toward ICT adoption increase the likelihood of sustained digital engagement, while negative perceptions related to complexity, security risks, and relevance act as deterrents (Zaremohzzabieh et al., 2016).

Behavioral intention (BI) plays a critical role in technology adoption, reflecting an entrepreneur’s willingness and commitment to incorporating ICT tools into their business strategies (Ajzen, 2015). Women entrepreneurs with strong behavioral intentions actively seek digital solutions, integrate them into daily operations, and invest in continuous technological adaptation (Tarhini et al., 2015). BI is a strong predictor of actual ICT usage, directly influencing entrepreneurial performance by enhancing efficiency, customer engagement, and competitive advantage (Bayo-moriones et al., 2013).

2. LITERATURE REVIEW

ICT adoption is essential for the success of women-led MSMEs, enhancing efficiency, market expansion, and financial performance (Performance, 2022). However, barriers such as digital literacy gaps, financial constraints, and socio-cultural challenges limit women entrepreneurs’ engagement with digital tools (Kamberidou, 2020). The Technology Acceptance Model (TAM) by Davis (1989) highlights Perceived Ease of Use (PEU) and Perceived Usefulness (PU) as key determinants of technology adoption, influencing attitudes and behavioral intention (Venkatesh & Davis, 2000). Studies show that entrepreneurs who find ICT beneficial and user-friendly are more likely to adopt digital tools, improving productivity and competitiveness (Ndayizigamiye & McArthur, 2014). Digital platforms like e-commerce and fintech empower women by overcoming traditional business barriers (Chatterjee & Kar, 2020). However, attitudes toward technology and behavioral intention significantly mediate ICT adoption, emphasizing the need for digital inclusion strategies to enhance women entrepreneurs' business performance (Oliveira & Martins, 2014).

3. STATEMENT OF THE PROBLEM

Despite advancements in Information and Communication Technology (ICT), digital transformation among women-led MSMEs remains inconsistent due to obstacles such as restricted digital literacy and budgetary limitations, and socio-cultural challenges (Kamberidou, 2020). While ICT adoption enhances efficiency and market reach, there is limited empirical evidence on how key technology acceptance factors—Perceived Ease of Use (PEU), Perceived Usefulness (PU), Attitudes Toward Use (ATU), and Behavioral Intention (BI)—impact women entrepreneurs' performance (Venkatesh & Davis, 2000). This study applies the Technology Acceptance Model (TAM) to examine how digital transformation influences the performance of women-led businesses.

4. CONCEPTUAL FRAMWORK

As a result of all the data presented above, the following hypotheses have been developed:

H01: Perceived usefulness and Perceived ease of use of Technology adoption does not significantly influence the Attitudes towards use.

H02: Attitudes towards use does not significantly influence the Behavioural Intention.

H03: Behavioural Intention does not significantly influence the Entrepreneurial Performance.

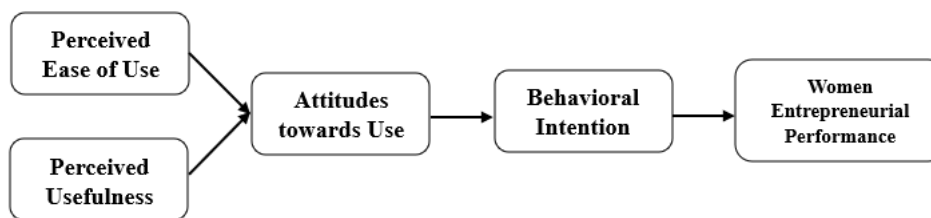


Fig. 1. Conceptual framework of ICT adoption and women entrepreneurial performance (Davis, 1989)

5. OBJECTIVES OF THE STUDY

1. To examine the impact of Perceived Ease of Use (PEU) and Perceived Usefulness (PU) on Attitudes Toward Use (ATU) among women entrepreneurs.

2. To analyze the influence of Attitudes Toward Use (ATU) on Behavioral Intention (BI) to adopt digital technologies in women-led businesses.
3. To assess the relationship between Behavioral Intention (BI) and Women Entrepreneurial Performance (WEP) within the framework of digital transformation.

6. RESEARCH METHODOLOGY

This study employed a structured questionnaire to collect primary data from 100 women entrepreneurs in Chengalpet District, selected using judgmental sampling from the Indian government's UDYAM MSME database. The questionnaire, based on the Technology Acceptance Model (TAM), included qualitative and quantitative questions measuring Perceived Ease of Use (PEOU), Perceived Usefulness (PU), Attitudes Towards Use (ATU), Behavioral Intention (BI), and Women Entrepreneurial Performance (WEP). Responses were recorded on a five-point Likert scale.

Data collection was conducted through personal interviews, and analysis was performed using SPSS 27 and Microsoft Excel 2016. Statistical techniques such as Reliability Statistics (Cronbach's Alpha), Descriptive Analysis, Mean and Standard Deviation, and Regression Analysis were used to examine the impact of digital transformation on women's entrepreneurial performance.

A. CRONBACH'S ALPHA TEST

A reliability test was conducted to validate the study instrument, setting an acceptable level of 0.7. The reliability test was conducted by computing the Cronbach alpha coefficient to measure the instrument's internal conformity. The results exceed the required threshold of 0.7 as recommended by Overview and Measurement (1978). The results of the dependability evaluation are displayed in Table 1.

Table 1: Summary of Results of Test of Reliability

Scale	Dimension	Items	Cronbach's Alpha	Reliability Level
PEOU	Perceived Ease of Use	3	.841	Good
PU	Perceived Usefulness	3	.856	Good
ATU	Attitudes towards use	3	.829	Good
BI	Behavioral Intention	4	.834	Good
WEP	Women Entrepreneurial Performance	6	.816	Good

Source: SPSS window output, 2025.

The reliability analysis in Table 1 indicates that all constructs have strong internal reliability, as evidenced by their Cronbach's Alpha values, which are above the recognized criterion of 0.7. Perceived Ease of Use (PEOU) recorded 0.841, Perceived Usefulness (PU) 0.856, Attitudes Towards Use (ATU) 0.829, Behavioral Intention (BI) 0.834, and Women Entrepreneurial Performance (WEP) 0.816. These values confirm that the items used to measure each construct are internally consistent and reliable. It has been identified that all dimensions fall within the good reliability range, the measurement scales are deemed suitable for further statistical analysis, assuring the reliability and correctness of the study's conclusions.

7. REGRESSION ANALYSIS

Regression analysis helps in understanding how variations in independent variables influence the dependent variable by establishing a predictive equation. The primary objective was to determine how Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Attitudes Towards Use (ATU), and Behavioral Intention (BI) contribute to Women Entrepreneurial Performance (WEP). The regression equation can be represented as:

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_p X_p + \varepsilon$$

Where:

- Y represents the dependent variable (Women Entrepreneurial Performance).
- X_j denotes the independent variables (PU, PEOU, ATU, BI).
- β_0 is the regression constant.
- β_j are the regression coefficients that measure the influence of each independent variable on WEP.
- ϵ is the random error term.

TEST OF HYPOTHESES

H01: Perceived usefulness and Perceived ease of use of Technology adoption does not significantly impact the Attitudes towards use.

Table 2: Impact of Perceived usefulness and Perceived ease of use of Technology adoption on attitudes towards use

Model	R	R square	Adjusted R square	Std error of the estimate	R change	df1	df2	Sig. F
1	.818	.669	.663	.55032	.669	2	98	.000

Source: SPSS window output (based on 2025 survey data)

Decision: Since the significance value ($p = 0.000$) is inferior to 0.05, Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) have a significant impact on Attitudes Towards Use (ATU). The regression analysis shows a correlation coefficient (R) of 0.818, suggesting an effective positive correlation between PU, PEOU, and ATU. The R-squared value of 66.9% suggests that PU and PEOU explain a significant percentage of the variation in ATU. The adjusted R-squared value of 66.3% confirms the model's reliability with minimal loss of explanatory power. Therefore, the null hypothesis (H01) is rejected, confirming that PU and PEOU significantly influence ATU in technology adoption.

H02: Attitudes towards use does not significantly influence the Behavioural Intention.

Table 3: Impact of Attitudes towards use on Behavioral Intention

Model	R	R square	Adjusted R square	Std error of the estimate	R change	df1	df2	Sig. F
1	.734	.538	.534	.64698	.538	1	99	.000

Source: SPSS window output (based on 2025 survey data)

Decision: Since the significance value ($p = 0.000$) is inferior to 0.05, Attitudes Towards Use (ATU) have a significant impact on Behavioral Intention (BI). The regression analysis shows a correlation coefficient (R) of 0.734, showing that ATU and BI have a very significant positive relationship. The R-squared value of 53.8% suggests that ATU determines a significant amount of the volatility in BI. The adjusted R-squared value of 53.4% confirms the model's reliability with minimal loss of explanatory power. Therefore, the null hypothesis (H02) is rejected, confirming that ATU significantly influences BI, emphasizing the role of positive attitudes in technology adoption.

H03: Behavioural Intention does not significantly impact the Women Entrepreneurial Performance.

Table 4: Impact of Behavioral Intention on Women Entrepreneurial Performance

Model	R	R square	Adjusted R square	Std error of the estimate	R change	df1	df2	Sig. F
1	.706	.499	.493	.67752	.499	1	99	.000

Source: SPSS window output (based on 2025 survey data)

Decision: Since the significance value ($p = 0.000$) is inferior to 0.05, Behavioral Intention (BI) has a significant impact on Women Entrepreneurial Performance (WEP). The regression analysis shows a correlation coefficient (R) of 0.706, suggesting that BI and WEP have a very favorable relationship. The R-squared value of 49.9% indicates the possibility that BI accounts for a significant amount of the variation in WEP. The adjusted R-squared value of 49.3% confirms the model's reliability with minimal loss of explanatory power. Therefore, the null hypothesis ($H03$) is rejected, confirming that BI significantly influences WEP, emphasizing the role of intention in the successful adoption of technology among women entrepreneurs.

8. SUGGESTIONS

To enhance digital adoption among women entrepreneurs, it is crucial to focus on improving digital literacy through targeted training programs that equip them with essential ICT skills, including e-commerce management and fintech applications. Furthermore, financial assistance programs, including low-interest funds and grants, must be established to enable women entrepreneurs to invest in digital technologies. Policymakers should also establish supportive regulatory frameworks that incentivize digital transformation and create an enabling business environment. Furthermore, fostering peer networks and mentorship programs can boost confidence and knowledge-sharing among women entrepreneurs, encouraging greater ICT integration. Lastly, awareness campaigns on cybersecurity and digital financial management are essential to address security concerns and build trust in digital platforms. By implementing these strategies, women entrepreneurs can leverage digital transformation effectively, leading to increased business efficiency, competitiveness, and long-term sustainability.

9. CONCLUSION

The study explored the impact of digital transformation on women entrepreneurial performance using the Technology Acceptance Model (TAM). The findings indicate that Perceived Usefulness (PU) and Perceived Ease of Use (PEU) significantly influence Attitudes Toward Use (ATU), which in turn affects Behavioral Intention (BI) and ultimately impacts Women Entrepreneurial Performance (WEP). Women entrepreneurs who perceive digital tools as beneficial and easy to use demonstrate a higher willingness to integrate them into their business operations, leading to increased efficiency, customer engagement, and financial growth. However, the analysis also emphasizes enduring obstacles, including inadequate digital literacy, budgetary limitations, and socio-cultural influences that limit the comprehensive adoption of digital technology by women-led MSMEs.

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