

Empowering role of digital technology for women run home-based businesses

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Abstract

Easy access to digital technology has transformed business opportunities for small and micro entrepreneurs, especially women running home-based ventures. Digital tools have lowered entry barriers and created a more level playing field for women who traditionally faced many constraints. This study surveys 90 women entrepreneurs in Ahmedabad to identify key factors driving their business success. It examines how innovative use of digital technology and the social capital built through online platforms contribute to their entrepreneurial growth.

Subject Classification: J16, L23, M13, O33.

Keywords: Digital technology, Home-based businesses, Social capital, Women entrepreneurs.

1. Introduction

Digital technology (DT) has transformed entrepreneurship by improving connectivity, expanding markets, and enabling even micro-level home-based businesses (HBBs) to operate online. E-commerce and digitalization have become crucial growth drivers, positioning HBBs as digital entrepreneurs. Women-owned HBBs are especially significant.

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According to PLFS 2018, 17.19 million women worked from home, with 66.1 percent as own-account workers. Understanding DT's role in their success is therefore essential.

DT's affordability and accessibility provide women with direct access to markets and networks at low cost. Online marketplaces, digital payments, and social media platforms enhance visibility, reduce spatial barriers, and create new opportunities. Improved connectivity and cybersecurity have boosted consumer confidence. Digitalization reduces reliance on economies of scale, allowing profitability even with modest turnover [1]. Recent studies show that low entry barriers have widened participation beyond traditional capitalists [2], [3] that has opened up more opportunities for women. Increasingly, women entrepreneurs use Business Networking Groups (BNGs) and Social Networking Sites (SNS) to promote products and grow professional networks.

In India, rapid ICT growth has driven digital adoption. Internet penetration rose from 4% in 2007 to 48.7% in 2022, while broadband connections jumped from 61 million in 2014 to 974 million in 2025. Wireless data use grew fivefold since 2015, and by July 2025, 900 million Indians were making online transactions. The pandemic further boosted digital payments by 51%. This surge highlights the need for targeted government efforts to enhance digital inclusion and support women-led microenterprises.

This study is relevant amid low female labour force participation in India. Self-employment rose from 51.9% to 59.4%, while salaried and casual work declined (PLFS 2022). Most home-based businesses are own-account work, with 90% of women entrepreneurs running microenterprises and 79% self-financing (Sixth Economic Census).

Literature Review:

Rapid internet growth, economic expansion, and changing lifestyles have fueled women-owned home-based businesses (HBBs). Yet, women face challenges like limited space, unsupportive consumer attitudes, work-family balance, and strained relationships. Literature highlights motivation, social capital, financial capital, and human capital as key factors driving their success.

Motivation: Role of motivation has always attracted attention of the scholars. Entrepreneurial motivation is the desire to succeed reflects the inner drive to exert effort toward achieving goals. Women entrepreneurs face unique challenges. Limited working space, indifferent customer

attitudes, balancing professional and domestic roles, and strained family relationships are common obstacles. They require very high motivation to sustain against all odds [4]. It might be driven by necessity (push factors) or opportunity (pull factors)[5]. Independence, self-realization, income control, and desire for achievement work as important pull factors [6]. Although these models are important, they often treat motivation as static. In practice motivation evolves with business stages and with access to digital technology.

Social Capital: Social capital as described by [7] are resources embedded in social networks that yield returns, while [8] emphasize that “who you are, whom you know, and what you know” influence entrepreneurial outcomes. Research shows social capital supports business management, sustainability, and innovation across contexts—high-tech firms[9] , small enterprises [10], and women-owned ventures. In this context, for women with limited education and scanty financial resources, networks can be particularly valuable in overcoming barriers.

Digital Technology: In today’s digital era, entrepreneurs increasingly use online platforms to build connections. Internet use enhances community involvement and trust by expanding communication opportunities [11] [12]. Social networking sites allow business owners to grow networks quickly and efficiently encouraging intensive usage [13].

Social capital mediates the relationship between digital technology and business: During the pandemic, digital platforms became vital for entrepreneurs to sustain. They enabled business continuity through customer engagement, product promotion, skill development, and online delivery [14] [15]. Social networking sites (SNS) and business networking platforms fostered relationships that supported the survival and growth of micro home-based businesses (HBBs). Prior researches show that social media enhances entrepreneurial networking[11]. [13] further argue that entrepreneurs use SNS differently from offline networks, leveraging them to strengthen and expand social capital essential for business growth. In the existing literature the mediating role of social capital, specifically built through digital platforms is often assumed rather than empirically tested in women-focused microbusiness contexts.

Based on the insights from the existing literature we formulate the following hypothesis.

- H1: Motivation has a positive influence on the success of home-based businesses.

- H2: Social capital contributes positively to the success of home-based businesses.
- H3: Digital technology has a positive impact on social capital.
- H4: Social capital mediates the relationship between digital technology and business success.

HBBs operate with basic digital skills, so years of education have little impact on success. Likewise, financial capital is vital for scaling but not essential for starting a business, [16] with studies showing no significant link to entrepreneurial success. [17]. Hence, this paper doesn't discuss human and financial capital. Rather it focuses on the role of social capital built through digital platforms in sustaining women-owned HBBs.

Methodology:

Sample and Data Collection:

The study employed a survey method. The questionnaire was pre-tested on ten entrepreneurs. Revisions were made to improve clarity and eliminate irrelevant items. A structured online survey was administered, supplemented by offline and telephonic responses, accounting for nearly 30% of the data. Data were collected through digital networking platforms such as FEA, Biz Treez, and Konnect, using a snowball sampling strategy. Out of 120 responses, incomplete questionnaires, particularly those lacking financial data, were excluded, resulting in 90 valid cases for hypothesis testing.

Measures:

Success: The study used the percentage change in average monthly profit as the key indicator. Participants reported their profit during the first year of business and their current profit. The difference between the two was divided by first-year profit and multiplied by 100 to calculate percentage change.

Digital Technology: Usage was assessed with a five-item construct. Participants rated, on a five-point Likert scale (1 = never, 5 = always), how often they used digital technology for: promoting products/services, gathering business information, processing orders, communicating with suppliers, and learning new skills.

Social Capital: While some studies measure social capital by network size [18] qualitative insights suggested that the degree of networking

matters more than sheer numbers. Thus, social capital was measured by examining participants' roles in digital networking platforms and professional or community associations. The frequency of participation, such as regular meeting attendance, was also considered alongside network size to capture both the breadth and depth of entrepreneurial networks.

Data Analysis

The collected data was analyzed using SPSS 20 software, which was utilized to check for missing data and generate descriptive statistics. Table 1 presents the demographic characteristics of the study participants.

Table 1
Business and Digital Technology Profile

Variable	Category	Frequency	Percentage
Years in Business	1-10	74	82.22 percent
	11-20	14	17.77 percent
Intention to Expand the Business	Yes	88	97.80 percent
Intention to Increase investment	Yes	78	86.70 percent
Intention to Increase Borrowings	Yes	50	55.60 percent
Frequently used social media	WhatsApp	63	68.87 percent
	Instagram	21	22.22 percent
	Facebook	9	8.89 percent
Use of Digital Payment Apps	Yes	90	100.00 percent
Comfortable developing social media content	Yes	75	83.33 percent
Digital Technology played Significant Role	Yes	80	88.90 percent

Source: Adapted by Authors from SPSS output

Table-1 gives an idea about profile of the sample. The most women have been in business for less than ten years, with an average of seven years. Many who earlier worked offline have shifted to online platforms in the last five years (personal interview). Expansion plans suggest that after experiencing rising profits, these women aspire to grow their businesses by increasing investment. However, the number willing to borrow has declined sharply. Borrowed capital brings liabilities and often enables

men to assume greater control. Since independence is highly valued, most women prefer to avoid loans.

Digital adoption is universal among respondents. Everyone uses digital payment apps, while WhatsApp is the most common platform for marketing and communication, followed by Instagram and Facebook. A majority also feel confident creating their own social media content. They strongly believe that digital technology has played a key role in their business success.

Hypothesis Testing:

The research hypotheses were tested using Partial Least Squares Structural Equation Modelling (PLS-SEM), which estimates models without strong distributional assumptions. Unlike CB-SEM, which requires larger samples for robustness [19], PLS-SEM is more suitable for small datasets [20]. Moreover, it offers higher statistical power than CB-SEM, improving the likelihood of detecting significant relationships when they exist [21].

Measurement Model

The measurement model in SEM assesses construct quality through reliability and validity. As shown in Table 3, all factor loadings exceed the recommended 0.70, except item SC3. Hair et al. recommend removing items only if doing so significantly improves composite reliability or AVE [22]. Since dropping SC3 did not enhance these metrics and it represents

Table 2
Reliability and Validity

Variable	Item Code	Loading	Outer weights	CA	rho_a	CR	AVE
Digital Technology	DT1	0.737	0.342	0.716	0.741	0.838	0.633
	DT2	0.816	0.394				
	DT3	0.830	0.513				
Social Capital	SC1	0.769	0.588	0.709	0.733	0.802	0.577
	SC2	0.830	0.408				
	SC3	0.670	0.312				

Source: Adapted by Authors from Output of Smart PLS 4

the entrepreneur's network size—an essential aspect of social capital [18]—the item was retained despite its lower loading.

The measurement model as shown in Table-2 showed strong internal consistency (Cronbach's alpha, CR, and rho_a > 0.7), convergent validity (AVE > 0.5 for all constructs), and discriminant validity (square root of AVE greater than inter-construct correlations), confirming reliability and validity of the constructs. Discriminant validity was further supported by HTMT ratios, all of which were below the 0.90 threshold, confirming clear distinction between constructs.

Structural Model

Structural model assessment showed no collinearity issues, as all VIF values were below the threshold of 5, indicating predictors were sufficiently independent. The structural model showed good fit (SRMR = 0.079 < 0.08), meaningful explanatory power ($R^2 > 0.1$), and predictive relevance ($Q^2 > 0$). Digital technology explained 31.5% of social capital variance, while motivation and social capital together explained 24.1% of entrepreneurial success.

Table 3
Path coefficients and fitness indices

Hypotheses	Path Coefficients	t statistics	P Value	R ²	Q ²	SRMR	Result
H1: Motivation -> Success	0.586	4.813	0	0.241	0.111	0.079	Significant
H2: Social Capital -> Success	0.319	6.206	0				Significant
H3: Digital Technology -> Social Capital	0.561	7.895	0				Significant

Source: Adapted by Authors from Smart PLS 4

The SEM results (table-3) show that motivation has a positive effect on social capital ($\beta = 0.586$, $t > 1.96$). Hence, hypothesis H1 was accepted.

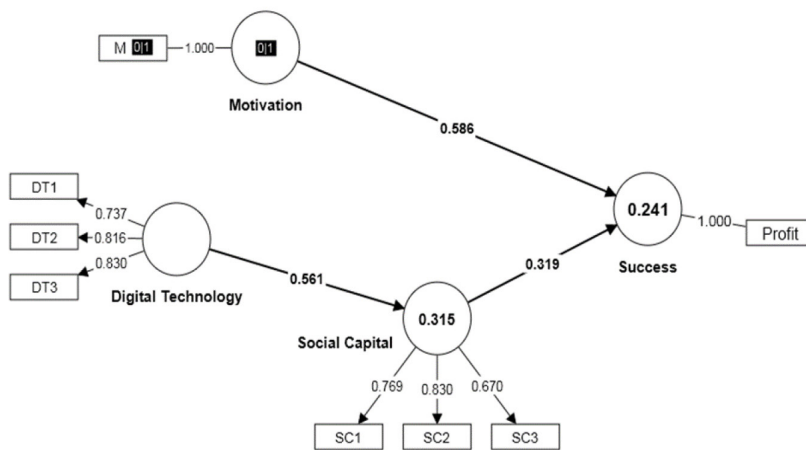


Figure 1
SEM Model

Social capital and digital technology also significantly (p value < 0) influence the success of home-based businesses, with beta values 0.319 and 0.561, respectively. Hence, hypotheses 2 and 3 were also accepted. Figure-1 shows the SEM model showing the same relationship.

Mediation Analysis

Table 4
Indirect effects

	Path Coefficient	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
H4: Digital Technology -> Social Capital -> Success	0.179	0.192	0.036	4.993	0.000

Source: Adapted by Authors from Output of Smart PLS 4

The mediation effect in this study was examined by using the bootstrapping approach. The mediation analysis showed as seen in table-4, that social capital significantly mediates the relationship between digital technology and home-based business success ($p = 0.000$, $t = 4.993$), leading to the acceptance of hypothesis H4.

Discussion

The study aimed to examine the relationship between social capital, digital technology use, and the performance of women-owned home-based businesses (HBBs). The structural model's R^2 value shows that digital technology explains 31.5% of the variance in social capital, supporting the hypothesis. Though moderate, the relationship is significantly positive, indicating that women are effectively using social media and networking groups to promote their businesses. Active participation in multiple platforms helps them build social capital, which in turn enhances business outcomes.

A second objective was to explore the role of motivation in entrepreneurial success. The regression model revealed that motivation and social capital together explain 24.1% of the variance. More motivated entrepreneurs dedicate greater effort and time to their businesses, leading to improved performance.

This finding is in tune with effectuation theory by Saraswathy [23], that suggest that women entrepreneurs in HBB succeed by building wider networks and relationships with available means rather than waiting for large financial capital or high degree of skills. Women using digital tools and networks to overcome their social, cultural and financial constraints reflects effectual logic.

Limitations

The study suffers from the following limitations.

- i. Scope of the study is very limited to understanding role of digital technology in building social capital that consequently leads to success.
- ii. This paper does not addresses the complex role of human and financial capital.
- iii. The success is also narrowly defined by the profitability of business.
- iv. This study is based on a very limited sample residing in the city of Ahmedabad. The sample was drawn through the snowball method, hence was not representative of all socio-economic classes of the society.

Conclusion

Technology has transformed employment in India, enabling more women to start home-based enterprises. Digital tools allow businesses to operate with minimal capital and education, helping women overcome financial and professional barriers. Motivation plays a key role in their success, which is often driven by effectuation behavior. By building wide networks through digital platforms—their ‘bird in hand’—women entrepreneurs offset the need for large financial or human capital.

Further research should explore how digital technology is leveraged in the effectuation process and whether it benefits women across socioeconomic groups. This can provide insights into how digital inclusion advances women’s entrepreneurship and employment equity in India.

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