

# Impact of Digital Entrepreneurship on Women's Economic Empowerment in Rural Karnataka: An Empirical Study

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## Abstract

**Purpose:** The study aims to examine the impact of digital entrepreneurship on women's economic empowerment in rural Karnataka, with particular focus on financial independence and economic decision-making.

**Methodology/Design:** The study adopts a quantitative, descriptive and analytical research design. Primary data are collected from 600 rural women entrepreneurs in Bengaluru Rural, Kolar, Chikballapur and Tumakuru districts using a structured questionnaire based on a five-point Likert scale. Digital entrepreneurship is measured through digital literacy, social media usage, online marketing, e-commerce adoption, digital payment usage, digital networking and technology adoption. Descriptive statistics, Cronbach's alpha, correlation and regression analysis are used through SPSS.

**Findings:** The findings indicate a significant positive relationship between digital entrepreneurship and women's economic empowerment. Digital entrepreneurship explains 46.8% of the variation in economic empowerment and has a significant positive influence on financial independence and economic decision-making. The study highlights the importance of digital skills, access to digital platforms, financial services and entrepreneurial training for strengthening the economic position of rural women.

**Keywords:** Digital Entrepreneurship, Women Entrepreneurs, Economic Empowerment, Digital Literacy, Rural Karnataka

## 1. INTRODUCTION

Digitalisation has transformed entrepreneurial activities through smartphones, internet connectivity, social media, e-commerce and digital payments. These technologies enable women entrepreneurs to access wider markets, communicate with customers, promote products and receive digital payments, thereby reducing geographical and market barriers (Chatterjee, Dutta Gupta & Upadhyay, 2020).

Women's entrepreneurship contributes to employment generation, household income and economic development. However, rural women continue to face challenges related to finance, skills, technology, market access and social constraints. Effective access to and use of digital technologies can strengthen women's participation in entrepreneurial activities (Mehta & Sinha, 2022). Digital platforms also provide opportunities for women entrepreneurs to develop businesses and reach customers, although differences in technological skills may restrict their effective utilisation (Kang, 2022).

Digital financial literacy and financial skills can improve financial decision-making among women entrepreneurs (2023). Digital entrepreneurship can also support women's empowerment through skill development, financial independence and improved business opportunities (Verma, Pandey, Kaur & Appasaba, 2024). However, limited digital literacy, inadequate infrastructure, lack of training and financial constraints continue to restrict rural women's digital participation (Paul & Dutta, 2026).

Therefore, the present study examines the impact of digital entrepreneurship on the economic empowerment of rural women in selected districts of Karnataka, focusing on digital literacy, social media, online marketing, e-commerce, digital payments, digital networking and technology adoption.

## 2. REVIEW OF LITERATURE

Chatterjee, Dutta Gupta and Upadhyay (2020) examined technology adoption and entrepreneurial orientation among rural women in India and found that ICT adoption can support micro-entrepreneurship when women have adequate access, skills and technological capabilities.

Bhagat, Rajan and Sambargi (2021) examined digital marketing strategies among women entrepreneurs and highlighted the importance of digital marketing capabilities for business performance and growth.

**Mehta and Sinha (2022)** examined ICT usage among women entrepreneurs and highlighted differences in women's access to and effective use of digital technologies.

Research published in 2023 found that digital financial literacy, financial skills and financial competency significantly contribute to financial decision-making among women entrepreneurs, highlighting the importance of digital financial capabilities.

**Verma, Pandey, Kaur and Appasaba (2024)** examined digital entrepreneurship and women's empowerment in India and found that digital entrepreneurship can support skill development, financial independence and community participation.

**Paul and Dutta (2026)** examined rural women's digital entrepreneurship in India and found that digital platforms can create entrepreneurial capabilities and economic opportunities, although financial, infrastructural and socio-cultural barriers continue to exist.

### 3. RESEARCH GAP

Existing studies have examined digital technology adoption, digital marketing, social media, financial literacy and women's entrepreneurship from different perspectives. However, limited empirical attention has been given to rural women entrepreneurs in Karnataka. Previous studies often examine individual digital factors rather than treating digital entrepreneurship as a multidimensional construct. Further, limited research directly examines economic empowerment in terms of income generation, financial independence, savings and economic decision-making. Therefore, the present study examines the impact of digital entrepreneurship on the economic empowerment of rural women in selected districts of Karnataka.

### 4. THEORETICAL FOUNDATION AND CONCEPTUAL FRAMEWORK

The study is mainly based on Amartya Sen's Capability Approach, which explains development in terms of people's ability to use available resources to improve their lives. In this study, digital technologies provide rural women with resources such as market access, information, finance, communication and business opportunities. The study also draws on the Resource-Based View, which considers digital skills, technological knowledge, networks and digital capabilities as important resources for improving entrepreneurial outcomes.

#### CONCEPTUAL FRAMEWORK

##### Independent Variable – Digital Entrepreneurship

Digital literacy  
Social media usage  
Online marketing  
E-commerce adoption  
Digital payment usage  
Digital networking  
Technology adoption

↓

##### Dependent Variable – Women's Economic Empowerment

Income generation  
Financial independence  
Control over income  
Financial decision-making  
Savings  
Business opportunities

**Conceptual relationship:** Digital Entrepreneurship → Women's Economic Empowerment

### 5. RESEARCH QUESTIONS

1. What is the level of digital entrepreneurship among women in rural Karnataka?
2. What is the level of economic empowerment among rural women in Karnataka?

3. Is there a significant relationship between digital entrepreneurship and women's economic empowerment in rural Karnataka?
4. Does digital entrepreneurship significantly influence the financial independence of rural women in Karnataka?
5. Does digital entrepreneurship significantly influence the economic decision-making of rural women in Karnataka?

## 6. OBJECTIVES OF THE STUDY

1. To examine the level of digital entrepreneurship among women in rural Karnataka.
2. To assess the level of economic empowerment among rural women in Karnataka.
3. To examine the impact of digital entrepreneurship on the economic empowerment of rural women in Karnataka.

## 7. HYPOTHESES OF THE STUDY

H<sub>01</sub>: There is no significant relationship between digital entrepreneurship and women's economic empowerment in rural Karnataka.

H<sub>02</sub>: There is no significant impact of digital entrepreneurship on the financial independence of rural women in Karnataka.

H<sub>03</sub>: There is no significant impact of digital entrepreneurship on the economic decision-making of rural women in Karnataka.

## 8. RESEARCH METHODOLOGY

|                                   |                                                                                                                               |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Research Design</b>            | Quantitative, descriptive and analytical                                                                                      |
| <b>Area of the Study</b>          | The study covers selected rural districts of Karnataka: Bengaluru Rural, Kolar, Chikkaballapura and Tumakuru.                 |
| <b>Population and Sample Size</b> | 600 rural women entrepreneurs                                                                                                 |
| <b>Sampling Technique</b>         | Convenience sampling                                                                                                          |
| <b>Sources of Data</b>            | Primary data: Structured questionnaire administered to rural women entrepreneurs.                                             |
|                                   | Secondary data: Research articles, books, government reports, institutional publications and other relevant academic sources. |
| <b>Data Collection Instrument</b> | Structured Questionnaire                                                                                                      |
| <b>Measurement Scale</b>          | Five-point Likert Scale                                                                                                       |
| <b>Statistical Tools Used</b>     | Percentage analysis, Mean and standard deviation                                                                              |
|                                   | Cronbach's Alpha, Correlation analysis, Regression                                                                            |
| <b>Software Used</b>              | SPSS                                                                                                                          |

## 9. RESULTS AND DISCUSSION

Table 1: Demographic Profile of Respondents

| Particulars | Category         | Frequency | Percentage |
|-------------|------------------|-----------|------------|
| Age         | Below 25         | 78        | 13         |
|             | 25–35            | 216       | 36         |
|             | 36–45            | 174       | 29         |
|             | Above 45         | 132       | 22         |
| Education   | School education | 168       | 28         |
|             | Diploma          | 96        | 16         |
|             | Graduate         | 228       | 38         |
|             | Postgraduate     | 108       | 18         |

|                            |                |     |    |
|----------------------------|----------------|-----|----|
| <b>Marital status</b>      | Married        | 432 | 72 |
|                            | Unmarried      | 168 | 28 |
| <b>Business experience</b> | Below 3 years  | 198 | 33 |
|                            | 3–5 years      | 186 | 31 |
|                            | 6–10 years     | 132 | 22 |
|                            | Above 10 years | 84  | 14 |

**Interpretation:** The demographic profile shows that the largest group of respondents is aged 25–35 years (36%), followed by those aged 36–45 years (29%). Graduates constitute the largest educational group (38%), while 72% of respondents are married. Regarding business experience, 33% have less than three years of experience, indicating a considerable presence of relatively new women entrepreneurs. Overall, the respondents represent diverse age, educational and entrepreneurial experience groups.

## DESCRIPTIVE STATISTICS

**Table 2: Digital Entrepreneurship and Economic Empowerment**

| Variable/Dimension                      | Mean        | SD          |
|-----------------------------------------|-------------|-------------|
| <b>Digital Entrepreneurship</b>         |             |             |
| Digital literacy                        | 3.76        | 0.71        |
| Social media usage                      | 3.82        | 0.69        |
| Online marketing                        | 3.61        | 0.76        |
| E-commerce adoption                     | 3.54        | 0.81        |
| Digital payment usage                   | 4.08        | 0.63        |
| Digital networking                      | 3.67        | 0.73        |
| Technology adoption                     | 3.72        | 0.7         |
| <b>Overall Digital Entrepreneurship</b> | <b>3.74</b> | <b>0.58</b> |
| <b>Economic Empowerment</b>             |             |             |
| Income generation                       | 3.89        | 0.67        |
| Financial independence                  | 3.72        | 0.71        |
| Control over income                     | 3.68        | 0.75        |
| Savings                                 | 3.61        | 0.77        |
| Financial decision-making               | 3.75        | 0.7         |
| Contribution to household expenditure   | 3.83        | 0.68        |
| Business opportunities                  | 3.79        | 0.72        |
| <b>Overall Economic Empowerment</b>     | <b>3.75</b> | <b>0.59</b> |

**Interpretation:** The results indicate favourable levels of both digital entrepreneurship and economic empowerment. Digital payment usage records the highest mean (4.08), while e-commerce adoption records the lowest mean (3.54). Among economic empowerment dimensions, income generation records the highest mean (3.89), whereas savings records the lowest mean (3.61).

## RELIABILITY ANALYSIS

**Table 3: reliability statistics**

| Construct                | Number of Items | Cronbach's Alpha |
|--------------------------|-----------------|------------------|
| Digital Entrepreneurship | 20              | 0.921            |
| Economic Empowerment     | 20              | 0.914            |
| Overall Scale            | 40              | 0.938            |

**Interpretation:** The reliability results show that Digital Entrepreneurship ( $\alpha = 0.921$ ) and Economic Empowerment ( $\alpha = 0.914$ ) have high internal consistency. The overall scale ( $\alpha = 0.938$ ) also demonstrates excellent reliability. Since all alpha values are above 0.70, the measurement scales are considered reliable and suitable for further analysis.

## CORRELATION ANALYSIS

**Table 4: Correlation between Digital Entrepreneurship and Economic Empowerment**

| Variables                | Digital Entrepreneurship | Economic Empowerment |
|--------------------------|--------------------------|----------------------|
| Digital Entrepreneurship | 1                        | 0.684**              |
| Economic Empowerment     | 0.684**                  | 1                    |

**Note:**  $p < 0.01$

**Interpretation:** The correlation coefficient between digital entrepreneurship and economic empowerment is 0.684, indicating a positive and significant relationship between the two variables at the 1% level. This suggests that greater adoption of digital entrepreneurial practices is associated with higher economic empowerment among rural women. Therefore, digital entrepreneurship has an important role in enhancing the economic position of rural women.

## REGRESSION ANALYSIS

**Table 5: Impact of Digital Entrepreneurship on Economic Empowerment**

| Model                                           | R     | R <sup>2</sup> | Adjusted R <sup>2</sup> | F-value | Sig.   |
|-------------------------------------------------|-------|----------------|-------------------------|---------|--------|
| Digital Entrepreneurship → Economic Empowerment | 0.684 | 0.468          | 0.467                   | 525.4   | <0.001 |

**Interpretation:** Digital entrepreneurship has a significant positive impact on economic empowerment ( $R = 0.684$ ,  $R^2 = 0.468$ ,  $p < 0.001$ ). It explains 46.8% of the variation in economic empowerment, indicating that digital entrepreneurship is an important predictor of women's economic empowerment.

**Table 6: Impact on Financial Independence and Economic Decision-Making**

| Dependent Variable       | Predictor                | $\beta$ | t-value | Sig.   |
|--------------------------|--------------------------|---------|---------|--------|
| Financial Independence   | Digital Entrepreneurship | 0.591   | 18.03   | <0.001 |
| Economic Decision-Making | Digital Entrepreneurship | 0.548   | 16.22   | <0.001 |

**Interpretation:** Digital entrepreneurship has a significant positive impact on financial independence ( $\beta = 0.591$ ,  $p < 0.001$ ) and economic decision-making ( $\beta = 0.548$ ,  $p < 0.001$ ). The findings indicate that greater involvement in digital entrepreneurial activities is associated with stronger financial independence and greater participation in economic decisions.

## HYPOTHESIS TESTING

**Table 7: Summary of Hypothesis Testing**

| Hypothesis                                                                                 | Statistical Result            | Decision |
|--------------------------------------------------------------------------------------------|-------------------------------|----------|
| H01: No significant relationship between digital entrepreneurship and economic empowerment | $r = 0.684$ , $p < 0.001$     | Rejected |
| H02: No significant impact on financial independence                                       | $\beta = 0.591$ , $p < 0.001$ | Rejected |
| H03: No significant impact on economic decision-making                                     | $\beta = 0.548$ , $p < 0.001$ | Rejected |

**Interpretation:** The hypothesis testing results show that all three null hypotheses are rejected at the 1% significance level. There is a significant positive relationship between digital entrepreneurship and economic empowerment ( $r = 0.684$ ,  $p < 0.001$ ). Digital entrepreneurship also has a significant positive impact on financial independence ( $\beta = 0.591$ ,  $p < 0.001$ ) and economic decision-making ( $\beta = 0.548$ ,  $p < 0.001$ ). Therefore, the findings indicate that digital entrepreneurship significantly contributes to the economic empowerment, financial independence and economic decision-making of rural women.

## 10. FINDINGS

1. The largest proportion of respondents belongs to the 25–35 age group (36%), while graduates represent the largest educational group (38%).
2. The overall level of digital entrepreneurship is favourable, with a mean score of 3.74.
3. Digital payment usage records the highest mean (4.08), while e-commerce adoption records the lowest mean (3.54).
4. The overall level of economic empowerment is favourable, with a mean score of 3.75.
5. Income generation records the highest mean (3.89), whereas savings records the lowest mean (3.61).
6. The measurement scales demonstrate high reliability, with Cronbach's alpha values ranging from 0.914 to 0.938.
7. Digital entrepreneurship has a positive and significant relationship with economic empowerment ( $r = 0.684$ ,  $p < 0.01$ ).
8. Digital entrepreneurship explains 46.8% of the variation in economic empowerment ( $R^2 = 0.468$ ).
9. Digital entrepreneurship has a significant positive impact on financial independence ( $\beta = 0.591$ ,  $p < 0.001$ ).
10. Digital entrepreneurship has a significant positive impact on economic decision-making ( $\beta = 0.548$ ,  $p < 0.001$ ).
11. All three null hypotheses are rejected, confirming the significant role of digital entrepreneurship in strengthening women's economic empowerment.
12. Major challenges include limited digital literacy, inadequate internet access, financial constraints, lack of training, cybersecurity concerns, limited e-commerce knowledge and fear of online fraud.

## 11. SUGGESTIONS

1. Government agencies and educational institutions should provide practical training in digital literacy, smartphones, online business tools and digital marketing.
2. Greater attention should be given to e-commerce training because e-commerce adoption recorded the lowest mean score among the digital entrepreneurship dimensions.
3. Affordable internet connectivity and access to smartphones and other digital facilities should be improved in rural areas.
4. Banks and financial institutions should provide simplified credit facilities and suitable financial products for rural women entrepreneurs.
5. Financial literacy programmes should focus on savings, investment and financial planning because savings recorded the lowest mean among the economic empowerment dimensions.
6. Women entrepreneurs should receive training on cybersecurity, secure digital payments, online fraud prevention and data privacy.
7. Self-help groups and women's associations should strengthen digital networking, mentoring and market information-sharing opportunities.
8. Digital entrepreneurship programmes should provide practical support in social media marketing, online branding and customer engagement.
9. Training in financial management and business decision-making should be provided to strengthen women's financial independence and participation in economic decisions.
10. Support programmes should be designed according to the different needs of rural women based on their education, business experience, income and level of digital capability.

## 12. CONCLUSION

Digital entrepreneurship provides rural women with opportunities to access markets, promote products, receive digital payments and expand their business networks. The study findings indicate a positive and significant relationship between digital entrepreneurship and women's economic empowerment in rural Karnataka. Digital entrepreneurship also significantly contributes to financial independence and economic decision-making among rural women. However, effective participation depends on digital literacy, financial resources, training, infrastructure and supportive

institutional conditions. Strengthening digital capabilities and access to digital platforms can therefore enhance women's economic participation and contribute to inclusive entrepreneurship and rural economic development.

### 13. LIMITATIONS

1. The study covers only selected rural districts of Karnataka, so the findings may not apply to all regions.
2. Convenience or purposive sampling may not fully represent all rural women entrepreneurs.
3. The study uses self-reported information, which may be influenced by respondents' personal opinions.
4. The study is cross-sectional and therefore does not show changes over a longer period.
5. The study focuses only on rural women engaged in entrepreneurial activities and does not cover all rural women.

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