

Determinants of Socio-Economic Empowerment among Rural Women Entrepreneurs in Karnataka: The Role of Entrepreneurial Competencies, Financial Inclusion, Digital Literacy and Institutional Support

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ABSTRACT

Women entrepreneurship is a strong vehicle for the economic participation and socio-economic empowerment, especially in rural areas. This study explores the impact of entrepreneurial abilities, financial inclusion, digital literacy and institutional support on socio-economic empowerment of the women entrepreneurs in the rural areas of Karnataka. Primary data were gathered from 520 rural Women entrepreneurs within 8 selected districts by using a structured questionnaire of 35 likert scale items. Descriptive statistics, Cronbach's Alpha, Exploratory Factor Analysis (EFA), Pearson correlation, t-test, Analysis of variance (ANOVA) and Multiple regression were used for data analysis. Results showed that the measurement scale had a high level of reliability with a Cronbach's alpha of 0.941 and the EFA found five factors that accounted for 66.36% of the total variance. Correlation revealed positive correlation of all four determinants with socio-economic empowerment. Multiple regression showed that four factors of entrepreneurial competencies ($\beta = 0.276$), digital literacy ($\beta = 0.221$), financial inclusion ($\beta = 0.193$) and institutional support ($\beta = 0.188$) were significant factors in affecting socio-economic empowerment ($p < 0.001$). The combined effect of the predictors accounted for 38.8% of the variance in empowerment. The study emphasises the need of integrated ecosystem along with entrepreneurial ability, financial access, digital competence and institutional support for enhancing socio-economic empowerment of rural women in Karnataka.

Key words: *Rural Women Entrepreneurs, Socio-Economic Empowerment, Entrepreneurial Competencies, Financial Inclusion, Digital Literacy, Institutional Support, Karnataka.*

CHAPTER 1: INTRODUCTION

1.1 Background of the Study

Women's entrepreneurship has today become a powerful tool for employment creation, augmenting household incomes, and alleviating poverty and socio-economic development. Entrepreneurship can be a way for women from rural communities to become involved in economic decision making, control resources and improve their bargaining power in the family and community. Kabeer (1999) views empowerment as a multi-faceted process, using the three interrelated dimensions of resources, agency and achievements, whereby access to resources is meaningful only when individuals have the capacity to use resources to affect their lives and

outcomes. Entrepreneurship is thus not only a source of livelihood, but a way of social and economic empowerment as well. Rural women entrepreneurs in developing countries like India often run micro or informal businesses in fields like agriculture related activities and services, food processing, tailoring and handicrafts. The importance of entrepreneurship in the economic empowerment of women has been emphasized by Agarwal and Lenka (2015) and recent evidence shows that women entrepreneurship still helps in the Household livelihood and local economy (Pandhare et al., 2024; Saini et al., 2024). But the access to finance, skills, technology, markets, social networks and institutional mechanisms play a role in the development of women entrepreneurs. Entrepreneurial skills are an important individual level determinant of entrepreneurship. Man et al. (2002) segregates the competencies of the entrepreneurial capability like Opportunity recognition, Strategic thinking, Organising, Relationship management, Commitment etc. Entrepreneurial competencies are also highlighted by Bird (1995) as one of the elements that help to convert entrepreneurial intentions into action. Building these skills can help rural women entrepreneurs in better decision making for business, adaptability and to respond market opportunity.

1.2 Financial Inclusion and Women Entrepreneurship

Financial inclusion allows people to access adequate and appropriate financial services such as savings, credit, insurance and payments services, which are accessible, affordable and usable. Financial Access can help women entrepreneurs to establish their enterprise, manage their working capital, invest and expand their business. But the personal savings and informal borrowing and community based financial arrangements have relevance in the context of many rural entrepreneurs. Studies have highlighted the link between financial inclusion and women's entrepreneurship, especially their access to formal financial services and credit in recent years (Kumarasamy et al., 2023; Nikmah et al., 2023; Pandhare et al., 2024). Women's access to financial resources can be further boosted through the support of the self-help groups (SHGs), the microfinance institutions and the government-backed credit schemes. However, financial inclusion does not mean just access to credit, but also financial awareness, the capacity to use and the confidence in formal financial institutions. The ongoing need to enhance women's financial capabilities and access to formal financial systems is underscored by recent Indian research (Mahajan & Chowdhary, 2022; Rani & Sundaram, 2023).

1.3 Digital Literacy and Rural Women Entrepreneurs

Digital transformation has changed the way business communicates with customers, how they make payments, how they find information and how they market products. Hence, digital competencies become an increasingly vital entrepreneurial skill. Smartphones, digital payments, online banking, social-media platforms and digital marketplaces can all be utilized to enhance business processes and market reach by women entrepreneurs who are digitally skilled. Digital capability has been emerging as an enabler for engaging in technology assisted economic activities in recent research on entrepreneurship in the digital age (Verma et al., 2024; Sivaraman &

Neriamparampil, 2024). However, in rural areas, women's digital adoption is hampered by lack of skills, awareness, and infrastructure and unequal access to digital resources. In recent years, studies on the female entrepreneur have indicated that, digital technologies both can provide new opportunities and are in need of adequate training and support structures (Tripathy et al., 2024; Peter et al., 2025). Digital literacy is therefore becoming more and more relevant to the question of effective rural women entrepreneurship to socio-economic empowerment in general.

1.4 Institutional Support and Women's Empowerment

Institutional support refers to any type of support provided by government schemes, entrepreneurship development programmes, training, credit facilitation, subsidies, mentoring, market linkage and other organisational supports. This support can help mitigate structural obstacles to women entrepreneurs and access to resources and opportunities. In the context of women's entrepreneurship and enterprise development, the significance of an enabling entrepreneurial ecosystem has been recognized (Agarwala et al., 2022; Sharma et al., 2024). Thus, there is a scope to have complementary roles for government initiatives, SHGs, financial institutions and entrepreneurship-development agencies. Indian policy oriented evidence has continued to focus on women's entrepreneurship, financial inclusion, enterprise development and access to institutional opportunities in recent times (NITI Aayog, 2025; Ministry of MSME, 2025). Institutional support is especially crucial in rural areas where women might have relatively limited access to business networks, formal markets and specialised enterprise services.

1.5 Socio-Economic Empowerment of Rural Women

Socio-economic empowerment involves: increased women's control of economic resources, increased women's participation in decision-making, increased women's financial independence, increased women's confidence, enterprise related agency and ability to contribute to household and community welfare. Kabeer (1999) draws a distinction between empowerment and the power to make choices, and the power to make choices and turn them into results. Thus, enterprises alone do not guarantee empowerment – the quality of women's entrepreneurial involvement and their ability to harness and leverage enterprise resources is also significant. With the Global Entrepreneurship Monitor (GEM, 2024, 2025), women's entrepreneurship and its role in economic participation and livelihood creation continue to be emphasized. Entrepreneurship, access to finance, institutional arrangements and capacity building are other areas of socio-economic development of women identified in the Indian context.

1.6 Context of Rural Women Entrepreneurship in Karnataka

Karnataka serves as a pertinent example to explore rural women entrepreneurship as the districts in the state do not offer a uniform picture of economic activities, enterprise typology, institutional infrastructure and digital infrastructure. The rural women have various micro- enterprises which include agro based, food processing, tailoring, handicrafts, retail and service. These businesses can help in providing livelihood to the women, employment in local areas and income to the family.

However, rural women entrepreneurs may face some hurdles such as lack of finance, lack of training, lack of digital skill, lack of market access and knowledge of institutional schemes. Newly conducted research papers on Indian women entrepreneurship highlight the need for coordinated support in the form of skills, financial services and access to digitalization and institutions (Kumarasamy et al., 2023; Saini et al., 2024; Peter et al., 2025). The issues serve as the foundation for exploring several factors of socio-economic empowerment in one empirical framework.

1.7 Need for the Study

This study has reviewed the various aspects of women entrepreneurship, financial inclusion, digitalisation and empowerment from different angles. An integrated empirical analysis on the contribution of Entrepreneurial competencies, Financial Inclusion, Digital Literacy and Institutional support towards socio-economic empowerment of rural women entrepreneurs is still possible. Most of the current debate focuses on one aspect at a time, and empowerment is multidimensional. This research endeavor seeks to bridge this gap by considering these four explanatory constructs at the same time in the context of primary data of the rural women entrepreneurs of the selected districts of Karnataka. The study also examines the socio-economic empowerment among the selected demographic groups and empirically examines the relative weightage of the four determinants.

1.8 Statement of the Problem

While rural women entrepreneurs are involved in the livelihoods of the households and local economy, their potential to build entrepreneurship into continuous socio-economic empowerment may be confined to what they can do and what is available to them. Entrepreneurial skills, access to finance, digital literacy and institutional support are limited and can restrict enterprise development and women's economic agency. Though studies have been conducted on these factors separately, there is a need to have an integrated empirical knowledge of how they affect socio-economic empowerment of rural women entrepreneurs in Karnataka. Hence, this study examines the impact of entrepreneurial skills, financial inclusion, digital literacy and institutional support on socio-economic empowerment of rural women entrepreneurs of selected districts of Karnataka.

1.9 Objectives of the Study

1. To analyse the extent of entrepreneurial skills and its impact on socio-economic empowerment of rural women entrepreneurs of Karnataka.
2. To study the effect of financial inclusion on socio-economic empowerment of rural women entrepreneurs of Karnataka.
3. To analyse the impact of Digital literacy on socio-economic empowerment in rural women entrepreneurs of Karnataka.
4. To assess the impact of institutional support on socio-economic empowerment of the rural women entrepreneurs in Karnataka.

1.10 Hypotheses of the Study

H₁: There is significant influence of entrepreneurial competencies on socio-economic empowerment of rural women entrepreneurs in Karnataka.

H₂: There is no significant effect between financial inclusion and socio-economic empowerment of rural women entrepreneurs in Karnataka.

H₃: Digital literacy has no significant impact on socio-economic empowerment of rural women entrepreneurs in Karnataka.

H₄: There is no significant effect of institutional support on socio-economic empowerment of rural women entrepreneurs of Karnataka.

1.11 Conceptual Orientation of the Study

Socio-Economic Empowerment (SEE) is taken as the dependent variable and Entrepreneurial Competencies (EC), Financial Inclusion (FI), Digital Literacy (DL) and Institutional Support (IS) are taken as the independent variables. The framework is based on the empowerment approach of Kabeer (1999) which links resources, agency and achievements, and the entrepreneurial competency approach of Man et al. (2002). Financial, Digital and Institutional mechanisms are considered as enabling resources and entrepreneurial competencies are considered as capabilities that can help women translate the available resources into enterprise and socio-economic outcomes.

1.12 Scope and Significance of the Study

The study deals with five hundred twenty rural women entrepreneurs of selected districts in Karnataka and highlights the correlation between four determinants and rural women entrepreneurs socio-economic empowerment. It includes the subjects of Demographic and Enterprise Characteristics, Reliability and Validity of measurement, correlation, group comparison and multiple regressions. The study is important for researchers, policy makers, financial institutions, SHGs and entrepreneurship-development agencies as it presents empirical evidence for the synergic relationship between capabilities, finance, digital literacy and institutional support. The results can help in developing more holistic strategies to promote rural women entrepreneurship and socio-economic inclusion (NITI Aayog, 2025; Ministry of MSME, 2025; GEM, 2025).

CHAPTER 2: REVIEW OF LITERATURE

Research on women entrepreneurship has begun to acknowledge that the socio-economic empowerment of women depends on the interplay of a variety of factors, such as their competencies, access to resources, technology skills and institutional factors. Kabeer (1999) theorised empowerment in terms of resources, agency and achievements which serves as a good basis in consideration of the socio-economic outcomes of entrepreneurial activities. Entrepreneurship perspective, Bird (1995) highlighted that competencies play a key role in entrepreneurial behaviours, whilst Man et al. (2002) identified four competencies which are

opportunity recognition, strategic, organising and relationship competencies as the important dimensions of entrepreneurial capability.

The studies that are specifically related to female entrepreneurs have pointed out the interplay of individual and contextual factors. Ahl (2006) critically reviewed the gender perspectives in entrepreneurship research and called for a more in-depth investigation of the structural parameters affecting women entrepreneurship. De Bruin et al. (2007) also determined that the social, institutional and environmental context of women's entrepreneurship must be studied. Agarwal and Lenka (2015) found that entrepreneurship may play a key role towards achieving economic empowerment of women in the Indian context, but women still face finance, family, skills, and markets related constraints.

The financial inclusion has become an especially significant factor influencing the participation of women in entrepreneurial activities. Mahajan and Chowdhary (2022) pointed out the significance of financial access in enhancing the economic participation of women and Bhatt (2022) focused on financial mechanisms for promoting entrepreneurship. Kumarasamy et al. (2023) also supported the fact that financial inclusion is relevant to the economic and entrepreneurial activities of women. In addition, Nikmah et al. (2023) also showed that access to financial resources and supporting capabilities is crucial to increase women's participation in entrepreneurship. Recent Indian research by Pandhare et al. (2024) suggests that many factors related to finance and ecosystem still determine the performance and sustainability of women entrepreneurs.

Digitalisation has brought in another significant aspect to women entrepreneurship. Digital capabilities and entrepreneurial activity enabled by digital technologies are becoming more relevant, as noted by Yang et al. (2022). Kovid et al. (2023) analyzed digital and financial aspects of women economic participation and proposed that digital access can be linked with conventional financial inclusion. Lingappa et al. (2023) also showed the significance of the digital technologies in the areas of entrepreneurial activities and business development. Recently, Verma et al., (2024) found that digital capability is an important facilitator in women's participation in entrepreneurship and Sivaraman and Neriampampil (2024) highlighted the importance of digitalisation for market access and business opportunities. In addition, Peter et al. (2025) suggested that the digital and financial skills have the potential of complementing each other in improving women's entrepreneurship.

Another stream of literature is on institutional and ecosystem support. Agarwala et al. (2022) pointed that institutional and contextual factors matter in determining the entrepreneurial outcomes. Rani and Sundaram (2023) studied the role of institutional mechanisms and financial support in the economic empowerment of women. Praveena et al., (2024) pointed out the significance of supportive institutional environments to foster women entrepreneurship and Saini et al., (2024) highlighted the role of training, financial resources and enabling ecosystems.

Similarly, Sharma et al. (2024) found institutional and entrepreneurial supports as one of the constituent elements of sustainable women entrepreneurship. Additionally, policy evidence from NITI Aayog (2025) and the Ministry of MSME (2025) underscore the ongoing relevance of credit, training, market access, and institutional facilitation for women-led businesses.

The literature also suggests the multidimensionality of entrepreneurial empowerment in recent times. Mylarappa and Thriveni (2024) noted that women's entrepreneurial development is closely related to skills and economic resources. Rathee and Aggarwal (2025) reiterated the importance of entrepreneurship in women's socio-economic empowerment and Garg et al. (2025) presented new aspects of women entrepreneurship in today's business scenario. The Global Entrepreneurship Monitor (2024, 2025) also acknowledges that women's entrepreneurship is a vital aspect of economic participation and enterprise development.

In general, the literature shows that each of the variables entrepreneurial competencies, financial inclusion, digital literacy and institutional support is individually relevant to women entrepreneurship and empowerment. But, limited studies have focused on these four determinants together with respect to socio-economic empowerment of the rural women entrepreneurs in Karnataka. This serves as the foundation for the current empirical study, which combines capability, financial, digital and institutional aspects in one explanation.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Research Design

The study was conducted using descriptive and analytical research design for understanding the determinants of socio-economic empowerment of rural women entrepreneurs of Karnataka. The descriptive component represents the demographic, socio-economic and enterprise characteristics of the respondents and the analytical component entails an examination of relationships and how the identified independent variable(s) influence the dependent variable of socio-economic empowerment.

3.2 Area of the Study

The study has been done among the rural women entrepreneurs of the 8 selected districts of Karnataka namely Mandya, Tumakuru, Mysuru, Kolar, Chitradurga, Ramanagara, Hassan and Chikkaballapur. The districts include a wide spectrum of activities at micro level in rural areas such as food processing, tailoring, handicrafts, retail, agro based activities and services etc.

3.3 Population and Sample Size

The population was the rural women who were doing businesses and self employment in selected districts. 520 respondents were interviewed. The final sample has sufficient observations for descriptive analysis, factor analysis, correlation and multiple regression.

3.4 Sampling Technique

To select the respondents from the selected districts and rural entrepreneurial settings, a multistage sampling approach was taken. To get representation across enterprise categories, women entrepreneurs involved in various types of micro and small-scale business activities were included.

3.5 Sources of Data

The study was mainly primary data used directly from the rural women entrepreneurs by using a structured questionnaire. Secondary information was gathered from pertinent academic research articles, Government reports, Policy documents and institutional publications pertaining to Women entrepreneurship, financial inclusion, digital literacy and women empowerment.

3.6 Research Instrument

A structured questionnaire was prepared to meet the objectives of the study and the related conceptual literature. The instrument comprised of demographic and enterprise-related questions together with 35 statements in the Likert scale with five constructs. Various responses to the attitudinal statements were captured using a five-point likert scale (1 = Strongly Disagree, 5 = Strongly Agree).

3.7 Variables and Measurement

This study consisted of one dependent and four independent variables:

- **Entrepreneurial Competencies (EC):** measured with seven items (EC1–EC7).
- **Financial Inclusion (FI):** measured with 7 items (FI1–FI7).
- **Digital Literacy (DL):** assessed with seven items (DL1 - DL7).
- **Institutional Support (IS):** measured with seven items (IS1–IS7).
- **Socio-Economic Empowerment (SEE):** (assessed by seven items: SEE1-SEE7).

The concept of the competency dimension is based on the entrepreneurial competency framework of Man et al. (2002) and the empowerment construct is based on the resources–agency–achievements perspective of Kabeer (1999).

3.8 Data Collection

The primary data were gathered from 520 rural women entrepreneurs from the selected districts by the structured questionnaire. Respondents were made aware of the aims of the study and the information gathered was only to be used for academic analysis.

3.9 Reliability and Validity

The internal consistency of the measurement instrument was obtained by Cronbach's Alpha. The Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test of Sphericity were used to test sampling adequacy and suitability for factor analysis. Exploratory Factor Analysis (EFA) was then used to explore the factor structure of the 35 measurement items. An overall Cronbach's Alpha of 0.941 indicated that the final scale had high internal consistency.

3.10 Data Analysis Techniques

The data obtained were analysed by using appropriate descriptive and inferential statistical techniques:

Frequency and Percentage Analysis – to present the characteristics of the enterprises, socio-economic and demographic characteristics.

- ✍ **Descriptive Statistics** – to analyze the mean, standard deviation and range of the constructs of the study.
- ✍ **Cronbach's Alpha** – to assess internal consistency.
- ✍ **KMO and Bartlett's Test** – To assess the suitability of the data for factor analysis, KMO and Bartlett's Test was used.
- ✍ **Exploratory Factor Analysis** – To confirm the structure of underlying constructs.
- ✍ **Pearson Correlation** – to compare the correlation between EC, FI, DL, IS and SEE.
- ✍ **Independent-Samples t-test** – to compare the differences in SEE for married and unmarried respondents.
- ✍ **One-Way ANOVA** – to determine any SEE differences between educational groups.
- ✍ **Multiple Regression Analysis** – to find out the individual and combined effect of EC, FI, DL and IS on SEE.

3.11 Model Specification

The multiple regression model used to analyze the factors affecting the socio-economic empowerment was presented as follows:

$$SEE = \beta_0 + \beta_1 EC + \beta_2 FI + \beta_3 DL + \beta_4 IS + \varepsilon$$

Where:

SEE = Socio-Economic Empowerment

EC = Entrepreneurial Competencies

FI = Financial Inclusion

DL = Digital Literacy

IS = Institutional Support

β_0 = Constant

β_1 – β_4 = Regression coefficients

ε = Error term

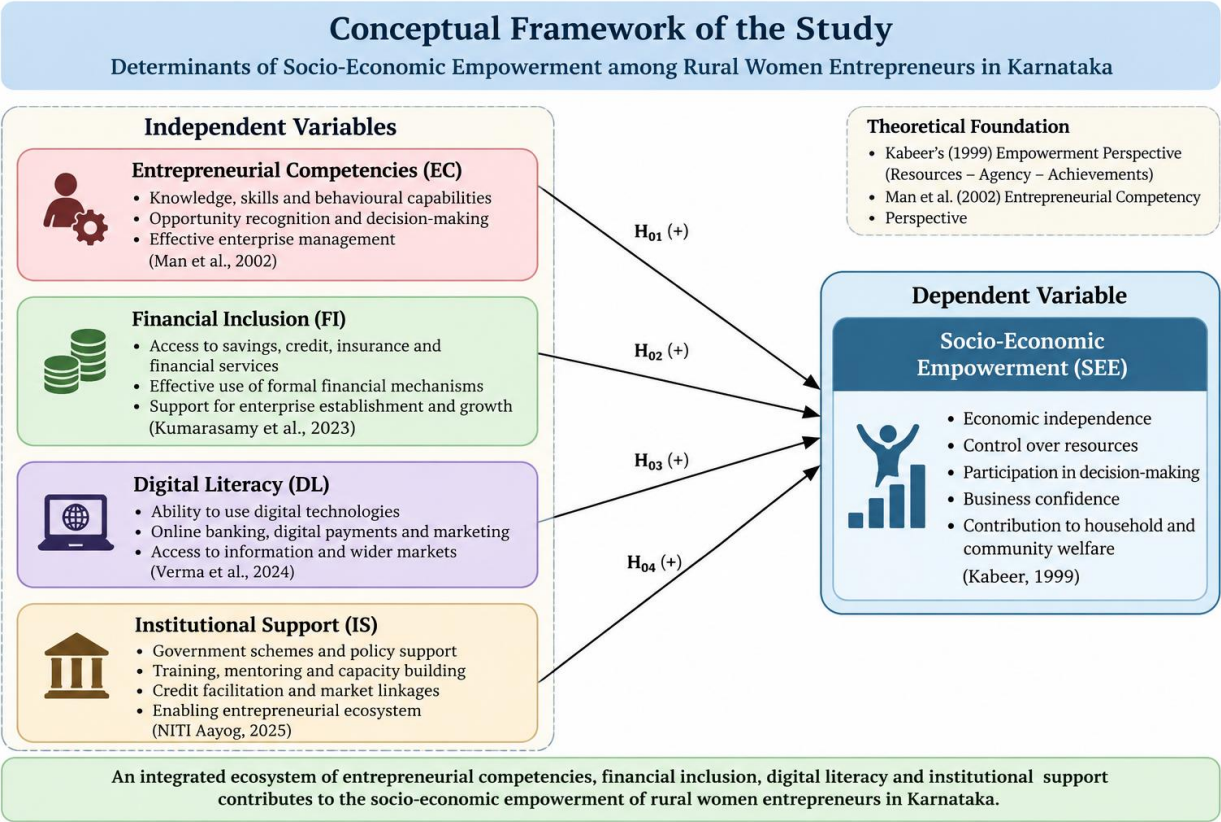
3.12 Level of Significance

Inferential tests were tested at 5% significance level ($\alpha = 0.05$). Statistically significant p-values were set at < 0.05 with their corresponding null hypothesis rejected. Consistent application of this criterion was made to correlation related inference, t-test, ANOVA and regression analysis.

3.13 Ethical Considerations

The participation was voluntary and the respondents were told about the academic purpose of the research. All the information was kept confidential and used only for research purposes.

3.14 Conceptual Framework of the Study



	Widowed/Separated	70	13.5
Family Size	1–3	95	18.3
	4–5	252	48.5
	6–7	139	26.7
	8 and above	34	6.5
Monthly Income	Below ₹10,000	90	17.3
	₹10,001–20,000	182	35.0
	₹20,001–30,000	128	24.6
	₹30,001–50,000	89	17.1
	Above ₹50,000	31	6.0

Source: Primary Data collected from 520 rural women entrepreneurs in selected districts of Karnataka.

From the results presented in Table 4.1 it is seen that the respondents were selected from 8 districts and maximum number of respondents were from Mandya (16.9%) followed by Tumakuru (13.8%) and Mysuru and Kolar (13.1% each). The most common age group was 26-35 years (32.5%) and PUC (28.3%) and graduate (26.2%) respondents were the largest educational groups. The majority of the sample (69.6%) was married women. Almost half (48.5%) lived in a family size of 4-5 persons. Based on the monthly income, 35.0% of them had income between ₹10,001-20,000, which is a moderate income range for entrepreneurs. These characteristics give suitable socio-economic background to discuss the empowerment of women entrepreneurs (GEM, 2024; Pandhare et al., 2024; Saini et al., 2024).

Table 4.2: Entrepreneurial and Business Profile of the Respondents

Entrepreneurial / Business Variable	Category	Frequency (N)	Percentage (%)
Enterprise Age	Below 2 years	105	20.2
	2–5 years	191	36.7
	6–10 years	140	26.9
	Above 10 years	84	16.2
Enterprise Type	Food processing	83	16.0
	Handicrafts	67	12.9
	Tailoring/Garments	86	16.5
	Retail/Trading	91	17.5
	Agro-based	73	14.0
	Services	80	15.4
	Other	40	7.7
Number of Employees	Self-employed	243	46.7
	1–2	167	32.1
	3–5	81	15.6
	More than 5	29	5.6
Entrepreneurship Training	1 programme	157	30.2
	2 programmes	110	21.2
	3 or more	72	13.8
	Not Reported	181	34.8
Primary Credit Source	Own savings	151	29.0
	SHG/Microfinance	124	23.8
	Bank loan	123	23.7

	Government scheme	77	14.8
	Other	45	8.7

Source: Primary Data collected from 520 rural women entrepreneurs in selected districts of Karnataka.

As is shown in table 4.2, majority of the respondents were operating in relatively established micro-enterprises with 36.7% having been operating for 2 – 5 years and 26.9% for 6 – 10 years. Retail/trading (17.5%), tailoring/garments (16.5%) and food processing (16.0%) were the major enterprise categories. Almost half (46.7%) were self employed and 32.1% had 1-2 employees, suggesting that the majority were small-scale businesses. As far as training is concerned, 30.2% of respondents had taken part in one programme, 21.2% in two programmes, while 34.8% had not reported any participation in programmes. Own savings (29.0%), SHG/microfinance (23.8%) and bank loans (23.7%) were the major credit sources. These patterns show that the development of rural women enterprises is significant for skills, finance, SHG support and institutional support (NITI Aayog, 2025; Pandhare et al., 2024).

Table 4.3: Descriptive Statistics of the Major Study Constructs

Construct	N	Mean	Standard Deviation	Minimum	Maximum
Entrepreneurial Competencies (EC)	520	3.00	0.69	1.00	5.00
Financial Inclusion (FI)	520	3.00	0.66	1.14	4.86
Digital Literacy (DL)	520	3.00	0.67	1.14	4.86
Institutional Support (IS)	520	3.00	0.67	1.14	4.71
Socio-Economic Empowerment (SEE)	520	3.00	0.69	1.00	5.00

Source: Primary Data collected from 520 rural women entrepreneurs in selected districts of Karnataka.

As indicated in table 4.3, the mean of the five study constructs was around 3.00 which is a moderate level for the measured dimensions. The mean score for Entrepreneurial Competencies and Socio-Economic Empowerment was 3.00 with SD 0.69 and a mean score for Financial Inclusion was 2.99 with SD 0.66, which was similar and comparatively lower. Mean scores for Digital Literacy and Institutional Support were 3.00, with SD scores of 0.67 for each. There is enough variation for the ranges observed by the respondents to support correlation and regression analysis. The moderate scores on these dimensions align with recent findings that entrepreneurial skills, financial access, online participation, and institutional arrangements continue to be key factors in advancing women's entrepreneurship and empowerment (Kumarasamy et al., 2023; Peter et al., 2025; Verma et al., 2024).

Table 4.4: Reliability Statistics of the Study Constructs

Construct	No. of Items	Valid N	Cronbach's Alpha (α)
Entrepreneurial Competencies (EC)	7	520	0.921
Financial Inclusion (FI)	7	520	0.909
Digital Literacy (DL)	7	520	0.911
Institutional Support (IS)	7	520	0.906
Socio-Economic Empowerment (SEE)	7	520	0.923
Overall Scale	35	520	0.941

Source: Primary Data collected from 520 rural women entrepreneurs in selected districts of Karnataka

The results show high internal consistency scores for each of the five constructs as shown in Table 4.4. The results indicated that Cronbach's Alpha values of the items ranged from 0.906 to 0.923, which is well above the generally accepted level of 0.70. The total 28 items were divided into five subscales: Entrepreneurial Competencies ($\alpha = 0.921$), Socio-Economic Empowerment ($\alpha = 0.923$), Financial Inclusion ($\alpha = 0.909$), Digital Literacy ($\alpha = 0.911$) and Institutional Support ($\alpha = 0.906$) had particularly strong reliability. The overall 35 item scale had an alpha of 0.941 indicating good reliability of instrument. This reliability is essential since the scales in the study are multi-faceted and are used to measure entrepreneurial competency and empowerment (Man et al., 2002). Recent research on women's entrepreneurship and financial inclusion, too, uses multiitem constructs to measure these multi-faceted phenomena (Kumarasamy et al., 2023; Peter et al., 2025).

Table 4.5: Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity

Test	Statistic	Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	KMO	0.953
Bartlett's Test of Sphericity	Approx. Chi-Square	11,350.028
	Degrees of Freedom (df)	595
	Significance (p-value)	<0.001

Source: Primary Data collected from 520 rural women entrepreneurs in selected districts of Karnataka

Table 4.5 shows the results of the Kaiser-Meyer-Olkin (KMO) and Bartlett's Test to check the suitability of 35-item scale for Exploratory Factor Analysis (EFA). The KMO value of 0.953 is excellent sampling adequacy, which means that the correlation patterns among the variables are suitable for factor extraction. Bartlett's Test of Sphericity is statistically significant ($\chi^2 = 11,350.028$, $df = 595$, $p < 0.001$) which means that the correlation matrix differs significantly from an identity matrix. Thus, there is adequate justification for conducting EFA since there are meaningful relationships between the measurement items. The highly inter-item correlation also aligns with the multi-dimensionality of the entrepreneur competencies and financial inclusion and empowerment variables in the literature (Man et al., 2002; Kabeer, 1999). As the p value is less than 0.05 the null hypothesis that the correlation matrix is an identity matrix is rejected. It is hence appropriate to use Exploratory Factor Analysis on the data.

Table 4.6: Exploratory Factor Analysis – Total Variance Explained

Factor	Initial Eigenvalue	% of Variance	Cumulative %	Extraction SS Loading	% of Variance Extracted	Cumulative % Extracted
1	11.708	33.45	33.45	11.708	33.45	33.45
2	3.597	10.28	43.73	3.597	10.28	43.73
3	2.904	8.30	52.02	2.904	8.30	52.02
4	2.712	7.75	59.77	2.712	7.75	59.77
5	2.305	6.58	66.36	2.305	6.58	66.36
6	0.593	1.69	68.05	—	—	—
7	0.565	1.61	69.67	—	—	—
8	0.545	1.56	71.22	—	—	—
9	0.523	1.49	72.72	—	—	—
10	0.502	1.43	74.15	—	—	—
Total (5 Factors)	23.226	66.36	66.36	23.226	66.36	66.36

Note: Five factors were retained based on eigenvalues greater than 1.00, corresponding to the five theoretically specified constructs: Entrepreneurial Competencies, Financial Inclusion, Digital Literacy, Institutional Support and Socio-Economic Empowerment.

Source: Primary Data collected from 520 rural women entrepreneurs in selected districts of Karnataka

The Total Variance Explained of the Exploratory Factor Analysis (EFA) of the 35 measurement items is presented in Table 4.6. The study constructs, namely, Entrepreneurial Competencies, Financial Inclusion, Digital Literacy, Institutional Support and Socio-Economic Empowerment, recorded five factors with eigenvalues greater than 1, which were retained. The first factor explained 33.45% of the variance, followed by 10.28%, 8.30%, 7.75% and 6.58% respectively. The total variance accounted for by the five factors was 66.36%, which means that the factor structure extracted was able to account for a significant portion of the variance in the respondents' responses. This amount of explained variance offers an empirical validation of the underlying multidimensionality of the instrument and is in line with the conceptualisation of women's entrepreneurship and empowerment as multidimensional (Kabeer, 1999; Man et al., 2002). The five-factor solution is accepted because the eigenvalues of all five factors extracted are greater than 1.00 and so the proposed construct structure is acceptable.

Table 4.7: Summary of Rotated Factor Loadings

Factor / Construct	Items	Factor Loading Range
Entrepreneurial Competencies (EC)	7	0.732–0.786
Financial Inclusion (FI)	7	0.702–0.743
Digital Literacy (DL)	7	0.660–0.752
Institutional Support (IS)	7	0.699–0.739
Socio-Economic Empowerment (SEE)	7	0.708–0.752

Source: Primary Data collected from 520 rural women entrepreneurs in selected districts of Karnataka

The rotated factor loadings of the 35 measurement items as a result of Exploratory Factor Analysis are shown in Table 4.7. The seven items for Entrepreneurial Competencies (EC) had loadings ranging from 0.732 to 0.786 and Financial Inclusion (FI) had loadings between 0.702 and 0.743. The range of loading of Digital Literacy (DL), Institutional Support (IS) and Socio-Economic Empowerment (SEE) was 0.660-0.752, 0.699-0.739 and 0.708-0.752, respectively. These loadings reflect good associations between the items observed and their respective factors, thus supporting their construct validity. An attempt to group the items around the proposed constructs revealed a clear grouping, which is supportive of the multidimensional measurement of entrepreneurial capability and empowerment (Man et al., 2002; Kabeer, 1999).

Hypothesis: Null hypothesis H_0 : The measurement items do not sufficiently reflect the underlying factors.

All item factor loadings exceeded 0.660, suggesting good association between items and factors, and supporting the proposed five factor structure, H_0 is rejected and H_1 is accepted.

Table 4.8: Pearson Correlation Matrix of the Major Study Constructs

Construct	EC	FI	DL	IS	SEE
Entrepreneurial Competencies (EC)	1.000	0.320	0.305	0.262	0.454
Financial Inclusion (FI)	0.320	1.000	0.394	0.352	0.434

Digital Literacy (DL)	0.305	0.394	1.000	0.395	0.455
Institutional Support (IS)	0.262	0.352	0.395	1.000	0.416
Socio-Economic Empowerment (SEE)	0.454	0.434	0.455	0.416	1.000

Source: Primary Data collected from 520 rural women entrepreneurs in selected districts of Karnataka.

The Pearson correlation matrix of the five major study constructs are displayed in Table 4.8. There are positive correlations between Entrepreneurial Competencies (EC) and Financial Inclusion ($r = 0.320$), Digital Literacy ($r = 0.305$), Institutional Support ($r = 0.262$) and Socio-Economic Empowerment ($r = 0.454$). Likewise, Financial Inclusion is positively correlated to Digital literacy ($r = 0.394$), Institutional support ($r = 0.352$) and Socio-economical empowerment ($r = 0.434$). Positive relationships are also found between Digital Literacy and Institutional Support with Socio-Economic Empowerment ($r = 0.455$ and $r = 0.416$). The relationships show that the entrepreneurial capability, access to finance, digital competency and institutional supports are correlated with their socio-economic empowerment, which is in line with the general empowerment view of Kabeer (1999) and literature on entrepreneurial competency of Man et al. (2002).

Hypothesis: H₁: There is a significant relationship between the study constructs and Socio-Economic Empowerment.

All four independent variables are positively associated with SEE and as a result, H₀ is rejected and H₁ is accepted. The correlations give initial evidence as to the extent to which they can be considered separately in multiple regression analysis.

Table 4.9: Independent-Samples t-Test of Socio-Economic Empowerment by Marital Status

Marital Status	N	Mean	SD	t-value	p-value
Married	362	3.01	0.70	0.867	0.387
Unmarried	88	2.94	0.69		
Total	450				

Source: Primary Data collected from 520 rural women entrepreneurs in selected districts of Karnataka.

Table 4.9 shows the result of independent-samples t-test between married and unmarried regarding Socio-Economic Empowerment (SEE) score. The mean score of SEE for married women entrepreneurs is 3.01 (SD = 0.70) while unmarried women entrepreneurs scored 2.94 (SD = 0.69). The t value obtained is 0.867 and p value is 0.387, which is not statistically significant at 5% significance level, thus the difference between the two groups is not significant. So, there does not seem to be any statistically significant difference between the socio-economic empowerment of the groups compared based on marital status. This discovery indicates that empowerment might be more related to entrepreneurial, financial, digital and institutional factors rather than marital status alone.

Hypothesis: H₀: The socio-economic empowerment of Rural women entrepreneurs is not significantly different at 5% level of significance between Married and Unmarried women entrepreneurs.

Because $p = 0.387 > 0.05$, the difference in SEE between the two groups is statistically insignificant and so H₀ is accepted and H₁ is rejected.

Table 4.10: One-Way ANOVA of Socio-Economic Empowerment across Educational Groups

Education Level	N	Mean	SD
Primary	67	2.97	0.76
Secondary	118	2.96	0.69
PUC	147	3.06	0.67
Graduate	136	2.99	0.69
Postgraduate	52	3.02	0.67
Total	520	3.00	0.69
F-value		0.394	
p-value		0.813	

Source: Primary Data collected from 520 rural women entrepreneurs in selected districts of Karnataka.

The results of one way ANOVA that compares differences in Socio-Economic Empowerment (SEE) among educational groups are shown in Table 4.10. There is only a small difference among the five education groups from the secondary-educated group (2.96) to the PUC group (3.06) in terms of mean SEE scores. These differences are not statistically significant at the 5% level as evidenced by the obtained F-value of 0.394 and $p = 0.813$. Thus, there is no statistically significant difference between socio-economic empowerment scores of the respondents in terms of their educational attainment. This means empowerment may be more reliant on entrepreneurial skills and access to finance, digital skills and institutional support than just formal education qualification.

Hypothesis: H_0 : No significant difference in socio-economic empowerment of rural women entrepreneurs in different educational group.

The results are: H_0 is accepted and H_1 is rejected, as the value of p is $0.813 > 0.05$ and differences in SEE by educational groups is not statistically significant.

Table 4.11: Multiple Regression Model Summary for Socio-Economic Empowerment

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate
1	0.623	0.388	0.383	0.543

Source: Primary Data collected from 520 rural women entrepreneurs in selected districts of Karnataka

Table 4.11 shows the Multiple Regression Model Summary that investigates the effect of Entrepreneurial Competencies (EC), Financial Inclusion (FI), Digital Literacy (DL) and Institutional Support (IS) on Socio-Economic Empowerment (SEE). The model yields an R value of 0.623 which shows that there is a positive relationship between the predictors as a whole and SEE. The R square value is 0.388, meaning that 38.8% of the variance in socio-economic empowerment can be accounted for by the four independent variables. The adjusted R square value is 0.383, which means that the four independent variables could explain a stable 38.3 % of the variance in socio-economic empowerment when adjusted for the number of predictors. These results provide data for the analysis of the statistical significance of the overall regression model and the individual regression predictors in the tables below.

Hypothesis: H_0 : The entrepreneurial competencies, financial inclusion, digital literacy and institutional support collectively have no significant effect on socio-economic empowerment.

Based on the overall regression evidence presented in Table 4.12, the p value is < 0.001 , which is below the 5% significance level, then it can be concluded that H_1 is accepted and H_0 is rejected.

Table 4.12: ANOVA of the Multiple Regression Model

Source	Sum of Squares	df	Mean Square	F-value	p-value
Regression	96.098	4	24.024	81.562	<0.001
Residual	151.696	515	0.295	—	—
Total	247.793	519	—	—	—

Source: Primary Data collected from 520 rural women entrepreneurs in selected districts of Karnataka

Table 4.12 shows the ANOVA results of the Multiple Regression model to test the combined effect of Entrepreneurial Competencies (EC), Financial Inclusion (FI), Digital Literacy (DL) and Institutional Support (IS) on Socio-Economic Empowerment (SEE). From the regression model, it can be noted that the F-value is 81.562 and p-value is < 0.001 which means that the overall regression model is statistically significant at 5% level. However, the sum of squares regression (96.098) is significantly larger than the sum of squares residual (151.696), indicating that the predictors as a group explain a significant amount of the variability in SEE. The findings show statistically that the socio-economic empowerment can be explained by the combined effect of the entrepreneurial, financial, digital and institutional factors.

Hypothesis: H_0 : There is no combined effect of Entrepreneurial Competencies, Financial Inclusion, Digital Literacy and institutional Support on Socio-Economic Empowerment.

H_0 is rejected and H_1 is accepted due to $p < 0.001 < 0.05$, which means that the overall regression model is statistically significant.

Table 4.13: Multiple Regression Coefficients for Socio-Economic Empowerment

Predictor	B	Std. Error	Beta (β)	t-value	p-value
Entrepreneurial Competencies (EC)	0.278	0.038	0.276	7.365	<0.001
Financial Inclusion (FI)	0.201	0.041	0.193	4.894	<0.001
Digital Literacy (DL)	0.227	0.041	0.221	5.548	<0.001
Institutional Support (IS)	0.194	0.040	0.188	4.846	<0.001
Constant	0.300	0.145	—	2.069	0.039

Source: Primary Data collected from 520 rural women entrepreneurs in selected districts of Karnataka.

Table 4.13 displays the Multiple regression Coefficients that reveals the individual effect of Entrepreneurial Competencies (EC), Financial Inclusion (FI), Digital Literacy (DL) and Institutional Support (IS) on Socio-Economic Empowerment (SEE). The Coefficients for all four predictors are positive and statistically significant. EC records $B = 0.278$, $\beta = 0.276$, followed by DL ($B = 0.227$, $\beta = 0.221$), FI ($B = 0.201$, $\beta = 0.193$) and IS ($B = 0.194$, $\beta = 0.188$). All of the predictors are significant at the $p < 0.001$ level, and show a statistically significant positive relationship with SEE when the other variables are held constant. These findings align with the perspectives that entrepreneurial competencies, access to finance, digital competencies and institutional mechanisms are key aspects of socio-economic empowerment for women (Man et al., 2002; Kabeer, 1999).

Hypothesis H_{01} : There is no significant difference in socio-economic empowerment due to entrepreneurial competencies. H_{01} is rejected and H_{11} is accepted, as $p < 0.001 < 0.05$.

Hypothesis H₀₂: There is no significant effect between financial inclusion and socio-economic empowerment. H₀₂ is rejected and H₁₂ is accepted, as $p < 0.001 < 0.05$.

Hypothesis H₀₃: There is no significant difference in socio-economic empowerment because of digital literacy. H₀₃ is rejected and H₁₃ is accepted, as $p < 0.001 < 0.05$.

H₀₄: There is no significant difference between institutional support and socio-economic empowerment. H₀₄ is rejected and H₁₄ is accepted, as $p < 0.001 < 0.05$.

Table 4.14: Relative Contribution of Determinants to Socio-Economic Empowerment

Determinant	Standardized Beta (β)	p-value	Significance
Entrepreneurial Competencies (EC)	0.276	<0.001	Significant
Digital Literacy (DL)	0.221	<0.001	Significant
Financial Inclusion (FI)	0.193	<0.001	Significant
Institutional Support (IS)	0.188	<0.001	Significant

Source: Primary Data collected from 520 rural women entrepreneurs in selected districts of Karnataka.

The relative contribution of the four independent variables has been explained by their standardized regression coefficient as given in table 4.14 for Socio-Economic Empowerment (SEE). Entrepreneurial Competencies had the highest beta ($\beta = 0.276$) followed by Digital Literacy ($\beta = 0.221$), Financial Inclusion ($\beta = 0.193$) and Institutional Support ($\beta = 0.188$). The p-values for all four predictors are less than 0.001 and hence are statistically significant at the 5% level. Each of the factors is seen to have a unique positive contribution in explaining the variation in socio-economic empowerment even when controlling for the other predictors. The results highlight the need to build entrepreneurial skills along with financial, digital, and institutional aspects to further enhance women's socio-economic empowerment (Man et al., 2002; Kabeer, 1999).

Hypothesis H₀₂: Entrepreneurial competencies are not significant in socio-economic empowerment. H₀₁ is rejected and H₁₁ is accepted, as $p < 0.001 < 0.05$.

H₂: There is no significant effect of financial inclusion on socio-economic empowerment. H₀₂ is rejected and H₁₂ is accepted, as $p < 0.001 < 0.05$.

Hypothesis H₀₃: There is no significant effect between digital literacy with socio-economic empowerment. H₀₃ is rejected and H₁₃ is accepted, as $p < 0.001 < 0.05$.

H₀₄: There is no significant difference between the socio-economic empowerment of the respondents with and without institutional support. H₀₄ is rejected and H₁₄ is accepted, as $p < 0.001 < 0.05$.

CHAPTER 5: MAJOR FINDINGS AND SUGGESTIONS

5.1 Main Results of the Study

1. Socio-economic and demographic profile: 520 rural women entrepreneurs spread over eight districts selected in Karnataka were covered. The respondents were predominantly in the 26–35 age group (32.5%), had PUC-level education (28.3%), were married (69.6%), belonged to families of 4–5 members (48.5%), and reported monthly income mainly between ₹10,001 and ₹20,000 (35.0%). These features suggest that women entrepreneurship in rural areas is mostly associated with the household and medium income socio-economic environment, which is in line with the overall profile of women's entrepreneurship in economic participation (GEM, 2024; Saini et al., 2024).

2. Enterprise characteristics: A significant share of respondents were involved in the enterprises for 2-5 years and major categories of the enterprises included retail/trading (17.5%), tailoring/garments (16.5%) and food processing (16.0%). About half of them (46.7%) were identified as self-employed and 32.1% of them had 1-2 workers, reflecting the character of being mostly micro enterprises and mostly owner managed by rural women. Micro-enterprises and entrepreneurial activity are also seen as a means to sustain women's livelihoods and local economic involvement, as evidenced in similar ways (Agarwal & Lenka, 2015; Pandhare et al., 2024)

3. Training and credit availability: The results show that 34.8% of the respondents did not receive training and the main source of credit was own saving (29.0%) and SHG/microfinance (23.8%) and bank loan (23.7%). This can be interpreted as dependence on personal and community-based financial mechanisms continuing. Enhancing formal financial access and entrepreneurship training will thus help to enable rural women to start and operate their businesses (Kumarasamy et al., 2023; NITI Aayog, 2025).

4. Moderate level of study constructs: The mean scores of all five constructs were around 3.00, which reflects the overall moderate status of the constructs namely Entrepreneurial Competencies, Financial Inclusion, Digital Literacy, Institutional Support and Socio-Economic Empowerment. The results indicate that the respondents do have some entrepreneurial and empowerment capacities but there is a room for improvement in these aspects (Kabeer, 1999; Peter et al., 2025).

5. High measurement instrument reliability: The Cronbach's Alpha for the five constructs ranged from 0.906 to 0.923 and for the 35 item scale 0.941. All values are above 0.5, demonstrating good internal consistency, and suggesting that the measurement items are all reliable in representing their constructs. The reliability of measurement is especially critical in the case of the assessment of multidimensional entrepreneurial competencies and empowerment outcomes (Man et al., 2002).

6. Adequacy for factor analysis: The KMO value was 0.953 and the Bartlett's test was significant ($\chi^2 = 11,350.028$; $p < 0.001$), indicating the adequacy of the data for factor analysis. Therefore, the interrelationship among the 35 measurement items was found to be adequate to be able to find meaningful underlying dimensions.

7. Confirmation of the five factor structure: The EFA resulted in five factors with eigenvalue greater than 1 which accounted for 66.36% of the total variance. The factor structure was found to be similar to the proposed constructs of Entrepreneurial Competencies, Financial Inclusion, Digital Literacy, Institutional Support and Socio-Economic Empowerment. Construct representation was also satisfactory, as factor loadings ranged between 0.660 and 0.786. The finding further confirms women's entrepreneurial and socio-economic empowerment as a multi-faceted phenomenon (Man et al., 2002; Kabeer, 1999).

8. Positive relationship between the constructs: Pearson correlation test showed positive relationships between all the five constructs. EC correlated with SEE at $r = 0.454$, FI at $r = 0.434$, DL at $r = 0.455$, and IS at $r = 0.416$. Findings show that higher entrepreneurial skills, financial inclusion, digital skills and institutional supports are linked to higher social economic

empowerment. This interdependency is a representation of the resource, capability and agency aspects of women empowerment (Kabeer, 1999; Kumarasamy et al., 2023).

9. Marital status and empowerment: Independent samples t-test indicated that there was no statistically significant difference in SEE between married ($M = 3.16$, $SD = 1.12$) and unmarried ($M = 2.96$, $SD = 1.11$) respondents ($t = 0.867$; $p = 0.387$). So, H_0 is accepted and H_1 is rejected, since p is greater than 0.05. This means that there is no significant difference in socio-economic empowerment between the different husband's marital status groups compared.

10. Educational attainment and empowerment: One way ANOVA showed that there was no significant difference between SEE between education groups ($F = 0.394$; $p = 0.813$). Thus, H_0 is accepted and H_1 is rejected ($p > 0.05$). The result indicates that there is no significant difference among the respondents with regard to empowerment based on formal education.

11. Overall explanatory power of the regression model: Multiple regression resulted with $R = 0.623$ and $R^2 = 0.388$, meaning that the EC, FI, DL and IS together accounted for 38.8% of the variance in Socio-Economic Empowerment. The adjusted R^2 value of 0.383 indicates that the model still explains a significant portion of the variation in 'Value' after accounting for the number of predictors. The outcome highlights the need to consider empowerment in terms of multiple and interrelated determinants instead of just one.

12. Overall model: Statistical significance of the overall model was indicated by statistically significant F value ($F = 81.562$, $p < 0.001$) of regression ANOVA, which showed that the overall regression model is statistically significant at 5% level. Thus, it may be concluded that the overall non-significance of the four predictors (the null hypothesis) is rejected. The results indicate that entrepreneurial, financial, digital and institutional dimensions can, together, explain the socio-economic empowerment, with the finding providing empirical evidence.

13. Influence of entrepreneurial competencies: Entrepreneurial Competencies was positively and significantly correlated with a coefficient ($B = 0.278$; $\beta = 0.276$; $p < 0.001$). Thus, we reject H_{01} and accept H_{11} . It shows that entrepreneurial skills are important in the socio-economic empowerment of women which is evidence of the competency based approach towards entrepreneurship (Man et al., 2002).

14. Influence of Financial Inclusion: Financial Inclusion had a positive and statistically significant impact on SEE ($B = 0.201$, $\beta = 0.193$, and $p < 0.001$). So the hypothesis H_{02} is rejected and H_{12} is accepted. Access to formal and informal financial resources seems to play a marginal and significant role in women's ability to run businesses and enhance their socio-economic standing in line with the recent evidence on women's financial inclusion (Kumarasamy et al., 2023).

15. Influence of digital literacy: Digital Literacy positively and significantly influenced SEE ($B = 0.227$; $\beta = 0.221$; $p < 0.001$). So, H_{03} is rejected and H_{13} is accepted. The discovery reinforces the importance of digital skills with regard to access to information, financial services, markets and entrepreneurial opportunities in a technological business environment (Verma et al., 2024; Peter et al., 2025).

16. Influence of institutional support: The influence of institutional support, institutions support was also positively and significantly affecting SEE ($B = 0.194$; $\beta = 0.188$; $p < 0.001$). So, H_{14} is accepted and H_{04} is rejected. The outcome shows that the access to institutional mechanisms, schemes, training and support systems is highly correlated to women's socio-economic empowerment (NITI Aayog, 2025).

17. Relative contribution of the predictors: the standardized coefficients show that EC ($\beta = 0.276$), DL ($\beta = 0.221$), FI ($\beta = 0.193$) and IS ($\beta = 0.188$) contribute differently and positively. All four coefficients are statistically significant ($p < 0.001$). This shows that socio-economic empowerment is a multi-dimensional phenomenon that needs to be tackled simultaneously by having a focus on entrepreneurial competencies, digital skills, access to financial support and institutional mechanisms, and not only on a single measure.

5.2 Study Suggestions

1. Enhance the competency development in entrepreneurship: The awareness creation programmes should be shifted to enhancing entrepreneurial competencies including opportunity identification, financial planning, negotiation, marketing, innovation and business decision making. Considering the strong positive correlation between EC and SEE, it is possible to incorporate competency oriented training into the training programme for women entrepreneurs (Man et al., 2002).

2. Enhance access to formal finance: Banks and financial institutions to streamline credit processes, improve mechanism of collateral free credit and offer financial products which are appropriate for micro and small women-owned businesses. There is also need to increase awareness of credit schemes and financial planning to avoid dependence on over-drawn own-savings.

3. Scale up Digital Literacy programmes: Practical training for rural women entrepreneurs on Digital payments, online banking, e-commerce, social-media marketing, digital bookkeeping, cybersecurity. The strong contribution to SEE by DL suggests that digital capabilities can be a support for broader participation in today's markets (Verma et al., 2024).

4. Improve institutional support: There should be a coordination of the programmes among the government departments, entrepreneurship development institutions, SHGs, banks and local support agencies. There should be information available on subsidies, credit, training, market linkages, enterprise-development schemes, etc., via a local level system (NITI Aayog, 2025).

5. Incorporate finance and entrepreneurship training: Financial training (and/or training on business management) should be integrated into or preferably accompany credit programmes. The results on the credit sources show that women take credit from multiple sources such as SHG, microfinance and bank; hence integrated financial and entrepreneurial support could enable productive use of credit (Kumarasamy et al., 2023).

6. Market linkage mechanisms: Rural women entrepreneurs need to be assisted to access local markets, organised retailers and exhibitions, online markets, and institutional buyers. By

employing such mechanisms, enterprises can overcome subsistence level of operation and open opportunities for their business expansion.

7. Promote Digital Market Access: Training programs should include a specific component on the use of digital platforms to promote products, communicate with customers, collect money and discover the market by women entrepreneurs. This is especially true in the context of the strong link between digital literacy and socio-economic empowerment.

8. Enhance awareness of government schemes: Local authorities and institutions supporting entrepreneurship can organise awareness programmes at regular intervals in rural areas on the various schemes, their eligibility conditions, how to apply and the benefits of these schemes. Programme accessibility can be enhanced by simplified multilingual information materials and community level facilitation.

9. Enhance SHG–enterprise linkages: SHGs/microfinance is an important source of credit for the respondents and linkages between SHG and formal financial institutions, entrepreneurship training and market-linkage programmes can be enhanced. This can convert SHGs from being a savings and credit mechanism to become an enterprise support mechanism.

10. Encourage continuous instead of one-time training: Relatively large percentage of the respondents, who reported no training or limited training participation, highlights the need for continuous capacity building. Refresher programmes can be used to cover the variation in market conditions, digital technologies, financial practices and enterprise-management requirements.

11. Pay attention to enterprise sustainability and growth: Programmes should not only target enterprise initiation, but also enterprise survival, enterprise growth, productivity and job creation. For mature companies, mentoring, bookkeeping support and business advisory services and market intelligence can help to bolster long-term performance.

12. Use integrated empowerment approach: The results of regression shows that the empowerment factors of EC, FI, DL and IS simultaneously affect SEE. Hence, the integrated intervention models, that involves both skills and finance as well as technology and institutional supports should be used by policymakers and development agencies instead of using separate programmes. This is in line with Kabeer's (1999) conception of empowerment as being multidimensional.

5.3 Overall Implication

The study sets that socio-economic empowerment of the rural women entrepreneurs is dependent on individual capabilities along with enabling institutional resources. The results reveal that entrepreneurial competencies, financial inclusion, digital literacy and institutional support have statistically significant positive impact on empowerment, but there is no significant difference in empowerment between groups of marital status and educational attainment. The findings thus indicate that empowerment policies should focus on empowerment capacity development, access to resources, digital empowerment, and making institutional support easier, which will enable sustainable rural women entrepreneurship in Karnataka. This is a multi dimensional approach,

which is in line with the resource, agency (Kabeer, 1999) and achievement perspective of women empowerment and competency perspective of entrepreneurial performance (Man et al., 2002).

CHAPTER 6: CONCLUSION AND PROSPECT FOR FUTURE RESEARCH

6.1 Conclusion

Based on the study, the present study concludes that Socio-Economic Empowerment (SEE) of rural women entrepreneurs of Karnataka is influenced by a combination of entrepreneurial competencies, access to finance, digital skills and institutional support. The measurement scale was observed to possess good reliability based on primary data which is acquired from 520 rural women entrepreneurs and EFA showed five factor structure accounting 66.36% of the total variance. The correlation results showed that all four explanatory variables have a positive correlation with SEE, and the results of multiple regression showed that there is a positive influence of all the four explanatory variables on SEE, namely the positive influence of Entrepreneurial Competencies with a coefficient of 0.276, Digital Literacy with a coefficient of 0.221, Financial Inclusion with a coefficient of 0.193 and Institutional Support with a coefficient of 0.188, and all the four explanatory variables are positive and influential on SEE and have a statistically significant influence at $p < 0.001$. The overall percentage of variance accounted for by the predictors was 38.8% for socio-economic empowerment. The results confirm the multi-dimensionality of women's empowerment, as provision of resources should go hand in hand with agency and capability to translate resources into impact (Kabeer, 1999). The findings also substantiate the competency view of entrepreneurship, which stresses on knowledge, skills and behavioural competencies in entrepreneurial activity (Man et al., 2002), and recent studies have pointed to financial inclusion and digital competencies for women entrepreneurs' participation (Kumarasamy et al., 2023; Verma et al., 2024; Peter et al., 2025). Therefore, it is necessary to build a complete entrepreneurial ecosystem to support rural women entrepreneurs where the entrepreneurship training, finance, digital inclusion and effective institutional mechanisms are interwoven.

6.2 Future Scope for Research:

Future research may build upon the current study by conducting a longitudinal and comparative study on women empowerment in various regions of Karnataka and other states in India to see how women empowerment changes over time and the socio-economic condition. Research can include other factors including market access, social networks, entrepreneurial motivation, entrepreneurial innovation capability, financial literacy, family support, awareness about digital financial services and policy, etc. which can further expand the explanatory power of the current model. Comparative studies of rural and urban women entrepreneurs might also reveal differences in opportunities and constraints to entrepreneurship in the various contexts. PLS-SEM and mediation and moderation models can also be used by future researchers to examine the mediation and/or moderation effects of other variables like financial literacy, digital financial inclusion or institutional access between entrepreneurial competencies and empowerment. More longitudinal

and mixed method studies could be used for better representation of measurable changes as well as lived experience involved in women's entrepreneurial development. Analysis of the effectiveness of specific government schemes and digital-finance initiatives through pre- and post-intervention designs could also be evaluated in future research. Such extensions would expand upon Kabeer's (1999) multidimensional empowerment approach, the entrepreneurial competency approach of Man et al. (2002), and recent findings related to women's financial inclusion, digital inclusion and entrepreneurship (Kumarasamy et al., 2023; Pandhare et al., 2024; Saini et al., 2024; Verma et al., 2024; NITI Aayog, 2025; Peter et al., 2025).

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