



Bridging the Digital Divide: Empowering Rural Women Entrepreneurs through Digital Inclusion

S Aiswarya^{*1}, Dr S Sangeetha²

^{1*} Ph.D Research Scholar, Department of Commerce, Sri Krishna Arts and Science College, Coimbatore, 641008, India.

²Associate Professor, Department of Commerce, Sri Krishna Arts and Science College, Coimbatore, 641008, India.

Abstract

Information and communication technology use and access have an impact on both the individual and the community. Public safety, education, healthcare, civic engagement, workforce development, and the economy all benefit from having a digitally inclusive community. Through increased efficiency, new business prospects, and improved access to international value chains and marketplaces, digital entrepreneurship has the potential to significantly contribute to women's inclusion in the digital economy. However, compared to men, women entrepreneurs are far underrepresented in the digital economy, particularly in emerging markets. Government and non-government organizations are implementing measures to empower women in rural, tribal, marginalized, and unreached areas to reduce the digital divide and give access to information and digital services. The present study aims to examine the digital inclusion of rural women entrepreneurs in Kerala. The study analyzes the usage of digital platforms by rural women entrepreneurs and the benefits they acquired after the COVID-19 pandemic. Data was collected from a sample of 264 rural women entrepreneurs. Statistical analyses were conducted using weighted averages, measures of dispersion, one-way ANOVA. The study revealed that the digital knowledge and digital skills of rural women entrepreneurs were enhanced. It found that there is an association between the reasons stated by the women entrepreneurs for attending digital inclusion programs and their perceptions of the application of digital technologies. Lack of infrastructure is the main hurdle confronted by women entrepreneurs in rural areas.

Keywords: digital inclusion, digital knowledge, digital skills, e commerce, rural women entrepreneurs

1. Introduction

The goal of irrespective of their social or economic background (Mohammad Patwary, 2020). Having digital abilities is essential to fully use the ICT revolution. It enables people to take advantage of the resources made available by the newest, cutting-edge technologies and to interact with the outside world more effectively. In this post-Covid era, digital entrepreneurship is a viable path ahead for small firms. It uses the power of digital technologies to make several entrepreneurship procedures a reality. One of the most effective ways to help women participate in the digital economy is through digital entrepreneurship. In addition to potentially boosting overall GDP and reducing poverty in India, rural entrepreneurship also has the potential to increase economic prospects for rural women. In India, the idea of women entrepreneurs is essential to rural development. Ensuring that all individuals possess the digital tools and abilities essential for success in today's technology-driven world is crucial. The digital divide is becoming a significant obstacle to social and economic inclusion in India as the country becomes more digitally advanced (Hema Yadav, et al., 2022). In the digital world, women's potential is gradually reduced, especially in rural areas where girls' and women's access to new technology is restricted by cost, lack of skills, and other sociocultural issues. The internet has penetrated urban society and is currently seeping into rural communities as well. In rural India, the availability of mobile phones has created new opportunities (S Saranya & K Chandrasekar, 2021). Present study aims to analyze the digital inclusion of rural women entrepreneurs in Kerala. Government agencies are conducting number of programmes for digital inclusion of women entrepreneurs in rural area. The study examines the perception of rural women



entrepreneurs about digital inclusion initiatives and the benefits they gained. It also examines the problems they encountered while accessing the digital platforms.

2. Review of Literature

P G Esteban, et al. (2021) investigate how family structure affects how businesswomen and entrepreneurs use social media. The study's epistemological foundations are hypothetical-deductive reasoning and logical positivism. This study has a descriptive design and is quantitative from a methodological perspective. 477 entrepreneurs and 126 businesswomen from Extremadura and Andalucia (Spain) are among the study's participants. Depending on their age group, businesswomen and female entrepreneurs use social media in different ways. On the other hand, it doesn't seem that age affects where people use social media. The findings imply that formal digital training must be established in order to boost participants' online visibility and engagement if equality in the area of digital inclusion is to be achieved.

Xiaolan Yang, et al. (2022) uses a nationwide sample made up of matched data from a digital financial inclusion index and a nationally representative survey to investigate the effect of digital financial inclusion on female entrepreneurship. The findings demonstrate that women's entrepreneurial behavior is greatly encouraged by digital financial inclusion. They discovered that women's financial restrictions can be lessened by digital financial inclusion, which can also give them access to business information to lessen informational constraints. Moreover, women's job flexibility is enhanced by the growth of digital financial inclusion, which encourages them to pursue entrepreneurship. The idea that digital financial inclusion can empower women is further supported by the fact that it has a greater impact on entrepreneurship among vulnerable women, such as those who lack financial autonomy or education and live in high-gender inequality areas.

Hema Yadav (2022) evaluates the components of strategic interventions needed to achieve women's empowerment and social development through digital inclusion using a case-based methodology and a thorough study of the literature. Focus group talks between the leaders and female entrepreneurs demonstrate the great potential of this novel kind of digital entrepreneurship to foster the growth of rural women's entrepreneurship and to open doors for women's empowerment.

Anushree Srivastva (2023) draws attention to the degree of digital literacy, its significance, and how helps encourage women's entrepreneurship. A survey was conducted among women in Uttar Pradesh to investigate the ways in which higher levels of digital literacy support the development of an entrepreneurial mindset among women. A random sampling technique was used to choose women from a range of socioeconomic backgrounds to determine the influence of demographic characteristics on digital literacy. Additionally, it was discovered how digital literacy improved women's entrepreneurship. It can be assumed that the government would empower women by empowering them to be self-reliant and independent, fostering resilience, and boosting confidence through the introduction of tailored goods and services.

2.1 Objectives and Hypothesis of the study

The primary goal is to investigate rural women entrepreneurs' use of digital technology. The study aims to investigate the advantages of digital inclusion for female entrepreneurs living in rural areas. Analyzing the challenges rural women entrepreneurs face utilizing digital platforms is the final goal.

3. Research Methodology

The current study aims to investigate how successful digital inclusion is for female rural businesses. Information gathered with a Google Forms-prepared, organized questionnaire. Information gathered from a sample of 264 rural women business owners out of the total of 840 rural women business owners in Kerala, India's Palakkad district who are registered with the District Industries Centre (DIC). To calculate sample size, apply Cochran's equation. The district of Palakkad has 88 Grama Panchayats. Using simple random picking, three female entrepreneurs each Grama Panchayat in the Palakkad area were chosen. The Cronbach's alpha test was used to evaluate the questionnaire's reliability. With a Cronbach's alpha of 0.714126, the questionnaire is deemed credible. The study's qualitative data were rated using a five-point Rensis Likert scale. Weighted averages, measures of dispersion, one-way ANOVAs, chi square tests, and factor analyses are used in statistical analyses.



4. Results and Discussion

Table: 1 Demographic Profile of Rural Women Entrepreneurs

Sl. No	Demographic Profile	No. of Respondents	Percentage
Age			
1.	Less than 25 Years	50	18.18
2.	26-40 Years	137	49.82
3.	41-55 Years	50	18.18
4.	Above 56 Years	38	13.82
	Total	275	100
Marital Status			
1.	Married	177	64.36
2.	Unmarried	98	35.64
	Total	275	100
Educational Qualification			
1.	High School	91	33.09
2.	Under Graduate	113	41.09
3.	Post Graduate and Above	71	25.82
	Total	275	100

Source: Primary Data

Table 1 shows the demographic profile of the respondents.

Table: 2 Reasons Stated by Women Entrepreneurs for attending Digital Inclusion Programmes

Variables	Primary Reasons	A Reason	One of the Reason	Net a Reason	Not at All a Reason	Sum	Mean	Rank
Increase in Knowledge	99 (36.00)	114 (41.45)	0 (0.00)	37 (13.46)	25 (9.09)	1050	3.82	2
Skill Acquisition	127 (46.18)	75 (27.27)	12 (4.36)	49 (17.83)	12 (4.36)	1081	3.93	1
Convenience	63 (22.91)	99 (36.00)	76 (27.64)	37 (13.45)	0 (0.00)	1013	3.68	4
Capturing Opportunities	87 (31.64)	100 (36.36)	25 (9.09)	50 (18.18)	13 (4.73)	1023	3.72	3
Innovative Marketing Strategies	111 (40.36)	51 (18.55)	38 (13.82)	63 (22.91)	12 (4.36)	1011	3.68	4
Financial Management	38 (13.82)	112 (40.73)	25 (9.09)	62 (22.54)	38 (13.82)	875	3.18	6

Source: Primary Data

Values in Parathesis are in Percentage.

Skills enhancement is the primary reason followed by Knowledge level increase and ability to capture opportunities.

Table: 3 Rural Women Entrepreneurs Perception on Effectiveness of Digital inclusion

Variables	Highly Improved	Improved	Moderately Improved	Not Improved	Not at All Improved	Sum	Mean	Rank
Increase in sales	90 (32.73)	97 (35.27)	26 (9.45)	49 (17.82)	13 (4.73)	1027	3.73	5
Networking	114	62	37	38	24	1029	3.74	4



	(41.45)	(22.55)	(13.45)	(13.82)	(8.73)			
Enhancement of digital skills	86 (31.27)	113 (41.09)	3 (13.82)	13 (4.73)	25 (9.09)	1047	3.81	2
Time and Resource Management	85 (30.91)	114 (41.45)	26 (9.45)	37 (13.45)	13 (4.74)	1046	3.80	3
Self-Confidence	102 (37.09)	97 (35.27)	26 (9.45)	26 (9.45)	24 (8.74)	1052	3.83	1
Family Balance	48 (17.45)	74 (26.91)	63 (22.91)	77 (28.00)	13 (4.73)	892	3.24	7
Creativity	62 (22.55)	111 (40.36)	37 (13.45)	36 (13.09)	29 (10.55)	966	3.51	6

Source: Primary Data

Table 3 shows that most of the rural women entrepreneurs perceive that digital inclusion leads to self-confidence followed by digital skill enhancement. It also leads to better time and resource management and networking. Family balance and innovation are not much enhanced due to it.

H₀: There exist association between the reasons stated by the women entrepreneurs for attending digital inclusion programmes and their perception on application of digital technologies after attending DCBP.

H₀: There exist association between the reasons stated women entrepreneurs for attending digital inclusion programmes and their perception on effectiveness of DCBP.

**Table: 6 Measure of Dispersion and One-Way ANOVA test
Age of the Women Entrepreneur Vs Problems Faced While Using Digital Platforms**

Variables	Less than 25 Years		26-40 Years		41-55 Years		Above 56 Years		F Value	Sig
	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
Network issues	2.020	1.134	2.131	1.175	2.140	1.143	2.132	1.298	10.127	.044
Security Issues	2.460	1.164	2.657	1.342	2.440	1.248	2.500	1.390	7.520	.009
Huge Cost of Installation	2.800	1.309	2.657	1.185	2.640	1.274	2.395	1.128	8.810	.049
Lack sufficient infrastructure	3.340	1.599	3.321	1.388	3.080	1.496	3.211	1.339	4.407	.048
Health Issues	2.660	1.255	2.912	1.512	2.820	1.424	2.789	1.545	10.383	.005
Lack of digital training	2.120	1.239	2.263	1.357	2.220	1.345	2.289	1.354	11.167	.019
Data loss	1.900	1.074	1.927	1.204	2.000	1.178	1.974	1.284	8.077	.002

Source: Primary Data

Level of Significance: 5 per cent

It is evident from the cross-tab data analysis that female entrepreneurs across various age groups encountered diverse challenges while utilizing the tools available on digital platforms. Parallel to this study, it was noted that the five percent significant threshold was met by the computed ANOVA test values of 10.127, 7.520, 8.810, 4.407, 10.383, 11.167, and 8.077. The concept is now recognized, and it has been determined that the issues faced by female entrepreneurs when utilizing digital platforms varies greatly based on their age.

5. Conclusion and Practical Implications

The influence of digital inclusion among women entrepreneurs in rural areas is examined in this study. Prior research concentrated on how women entrepreneurs generally used digital media, particularly following the COVID-19 epidemic. Numerous investigations have been carried out to assess the level of



digital literacy among female entrepreneurs. Numerous female business owners were discovered to be lacking in the digital competencies necessary for conducting profitable operations worldwide. Consequently, to improve the digital knowledge and skills of female entrepreneurs, both governmental and non-governmental groups organized numerous digital inclusion events. Analyzing whether these initiatives are effective in equipping women entrepreneurs, particularly those in rural regions, with the requisite digital skills is crucial. It improved their proficiency with digital technology. By using e-commerce media to market their products, it also enhanced their sales. They can affordably and simply discover clients anywhere in the world. However, they face numerous challenges while using digital media for work, including a lack of infrastructure, expensive installation, slow internet, network problems, etc. These obstacles can be eliminated with low-cost broadband services or free Wi-Fi. Their business can explore more thanks to their advanced digital understanding.

The research helps reorganize digital inclusion programs that are targeted at rural women entrepreneurs. The initiatives' efficacy must be regularly assessed. Rural women entrepreneurs would not be able to expand or diversify their businesses with only digital information at their disposal. so that the relevant authorities can promptly address it. The study's only goal was to support female rural entrepreneurs in developing their digital skills. Thus, more research on urban women entrepreneurs or women entrepreneurs in general can be conducted. It is not investigated if female entrepreneurs lack digital abilities. Each of these affects the study's future direction.

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