

Assessing Digital Awareness and Investment Behaviour through Technology: A Comparative Study on Women's Financial Inclusion and Entrepreneurship in Rural and Urban Areas.

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Abstract

Women entrepreneurs are transforming their dreams into reality. They are transforming the landscape of the nation's business. Despite facing social obstacles, they are standing as role models in fulfilling their aspirations. Advancements in women's education, changes in societal and cultural norms, and aid given by the government and MSMEs are the main reasons for the growth of entrepreneurship. Women are making a difference in various sectors, including technology, fashion, food, and allied Industries. According to Recent statistics published by MHRD, women entrepreneurs constitute 13.7% of the Indian workforce while 65% are from rural areas. According to Forbes, women own 20.37% of MSMEs, managing 8.05 million businesses. 83% of these women-led enterprises operate independently without hired help, and 87% are from rural regions. Even though the statistics show that there is a predominant growth of women in workforce contribution India struggles to match with international rankings. These women backed by MSMEs are using conventional modes of carrying business, thus losing the markets. Women must be imparted with the technological knowledge to enhance their business, to Digital platforms and improved access to credit, savings, and ways to procure financial aid for short-term and long term needs Thus, this study explores the role of technological interventions through digital platforms and financial interventions to advance financial inclusion for women in entrepreneurship. This study also examines the contrasting dynamics in investment patterns of rural and urban women.

This study inspects the role of technological interventions to facilitate the inclusion of women in entrepreneurship through digital platforms and fintech solutions.

Keywords: women entrepreneurs, inclusion, digital awareness, technology, MSME

Introduction/Objective:

1. To study and understand the ecosystem of women entrepreneurship in India.
2. To understand technological and digital literacy, financial literacy among rural and women entrepreneurs in India.
3. To analyses financial literacy among rural and urban women entrepreneurs in the area of Hyderabad.
4. To compare the investment behavior of rural and urban women entrepreneurs in the area of Hyderabad.

1.0. Background of the study

Nearly half (48%) of the nation's population consists of women, and it is unrealistic to consider economic growth without acknowledging women as a crucial driver. Nevertheless, statistics show an increase in women's contributions to the labor force, but nearly 98% of women-owned businesses in India remain micro businesses. According to MSME data, male entrepreneurs are the majority, while female entrepreneurs represent just 13.7% of the overall total. The leading five sectors where women entrepreneurs are most involved are i) Agriculture, ii) Manufacturing, iii) Trade, iv) Education, and v) Other Services. (CHAPTER VI WOMEN ENTREPRENEURS 6.1 INTRODUCTION, n.d.) Only 5.5% of STEM startups are founded by women (Decoding Government Support to Women Entrepreneurs in India, n.d. India ranks 70th among 77 nations across the world in the Global Female Entrepreneurship Index (FEI) as estimated by the Global Entrepreneurship and Development Institute. (GEM_INDIA_REPORT_2021-22. Pdf, n.d.). Based on data from the World Bank, 92.1% of financial support for women entrepreneurs is derived from self-funding, family, and friends, with formal and semi-formal financial sources contributing only 3.1%. Just 33% of women have ever accessed the internet, a number that falls to approximately 25% for those in rural areas. (Women Entrepreneurship Study of Indian Scenario,

n.d.). Financial literacy among women is just 21% (All India Report of Sixth Economic Census, n.d.) survey.

The inclusion of women is vital for GDP contributions, and the state's intervention to remove hindrances encourages women's entrepreneurship. Gender development has emerged as a new paradigm for growth. As a core component of the Human Development Index, the empowerment of women is recognized with particular emphasis. Achieving women's empowerment, gender equality, and equitable and sustainable economic growth hinges on women having equal access to and control over financial and economic resources.

2.0. Introduction:

Women's empowerment has become a new paradigm of economic development. The significance of women's upliftment is witnessed across the globe. Women's empowerment is a multi-dimensional concept that embraces social, cultural, political, and economic aspects. It plays a pivotal role in economic development. The shift from traditional practices to the acceptance and inclusion of women across all fields has transformed societal behavior in both rural and urban areas. Efforts to improve women's education, reduce gender bias, and increase workforce inclusion have led to significant change. Progressing towards the achievement of as primary goals are being achieved, the growing involvement of women in the labor force, employment, and entrepreneurship is now undeniable. Entrepreneurship is a key element that helps economies to benefit from the talents, energy, and ideas (GEM_INDIA_REPORT_2021-22. Pdf, n.d.) Promoting women's entrepreneurship boosts the economy and enhances women's decision-making in key areas (GEM_INDIA_REPORT_2021-22. Pdf, n.d.). Often pursued as a necessity rather than a choice, women's entrepreneurship can expand through improved digital and financial literacy, fostering their inclusion in decision-making and entrepreneurial growth.

2.1. Financial Literacy of Women Entrepreneurs

Financial literacy describes the skills and information needed to manage finances, manage resources, and operate in financial systems (Lusardi 2019; OECD 2023). The concept of financial literacy includes the abilities and skills necessary to utilize and apply financial knowledge, including understanding legal concepts, numerical information, and descriptive details (Sokol,

2014). These definitions define who is referred to as "financially literate. Financial literacy encompasses the understanding, abilities, and competence required to make wise financial choices. In the realm of entrepreneurship, it plays a vital role as it allows business owners to efficiently oversee their financial activities, which include budgeting, investments, and accounting. It also entails the capacity to assess financial information for informed decision-making and its influence on the company's profitability

Research demonstrates a positive relationship between financial literacy and success in business, suggesting that entrepreneurs with high financial literacy are more likely to thrive (Sarstedt et al., 2018). This is concerning because women-owned businesses are generally smaller and less prosperous compared to businesses run by men (Ahl, 2006). Improving financial literacy among women can enhance their business success and contribute to the overall growth of the economy. Financial literacy helps to utilize financial aids, appropriate utilization of funds, and organic means of financial planning for future expansion purposes. "Access to finance" refers to the ability of individuals and businesses to access financial services such as loans, savings, insurance, and payments, which positively affects both financial and economic growth (Guney and Demirel, 2019) and comes only with financial literacy, which is exhibited in investment to an individual's inclination to save, budget, or manage expenses (Perry and Morris, 2005). This is shaped by their sense of control over outcomes, as well as their financial understanding and available resources

Digital literacy, in simple terms, refers to the ability to effectively access, understand, and use digital technologies. Digital skills are utilizing digital technology to scale up the business. Utilizing social media and other technological platforms to enhance the business. Online marketplaces help women entrepreneurs reach a wider audience. Social media platforms help women entrepreneurs showcase their products and connect with consumers. As per the World Bank's statistics, 92.1% of the funding available for women entrepreneurs is derived from personal savings, family, and friends, while only 3.1% is sourced from formal and semi-formal financial institutions. Merely 33% of women have utilized the internet, and this percentage further declines to about 25% for those in rural areas. Nasscom Foundation offers programs to help women entrepreneurs improve their digital, financial, and entrepreneurship development skills. Digital literacy, in simple terms, refers to the ability to effectively access, understand, and use digital technologies. Digital technologies provide marketing tools and strategies that help women entrepreneurs promote their

businesses. Digital literacy helps women entrepreneurs increase visibility, attract leads, and drive sales.

2.3. Financial Digital Literacy and Decision-Making of Women

With advancements in technology, financial and digital literacy is essential to the growth and success of all entrepreneurs. With technological advancements, the usage of fintech products has become inevitable thus increasing digital and financial literacy. Individuals are taking greater ownership of their financial planning and achieving greater financial independence, which promotes financial autonomy and inclusion. Financial and digital literacy not only improves financial inclusion but also empowers people to participate in the cashless economy by alerting them to digital fraud such as phishing and hacking (Dsouza, 2016). Financial literacy enables efficient use of fintech products and services (Antony, 2023). Similarly, states that knowledge of the technical aspects of the Internet, awareness of standard organizational practices, and awareness of current privacy regulations are three distinct dimensions of digital literacy that greatly influence privacy-related behavior online. Financial literacy promotes financial inclusion and improves financial decision-making abilities. Women's financial independence is reshaping the entrepreneurial landscape, allowing them in decision-making roles to advance their businesses with originality and ingenuity. (Samantroy & Tomar, 2018). Women in India often do not take full advantage of technological advancements. In areas where technology is readily available, there is less entrepreneurial engagement; however, rural areas have high rates of entrepreneurship but with minimal technology adoption. The government is taking initiatives to bring in balanced regional development.

Understanding the statistics given in background of the study, the factors that influence Digital financial awareness and investment behavior of female entrepreneurs are

1. Income
2. Education
3. Geographical area
4. Availability of /Internet
5. Government initiative to impart knowledge

3.0. Review of Literature:

The literature review aims at understanding the factors influencing women entrepreneurship and the need to foster financial, digital literacy.

3.1. Land scape of Women empowerment in India

3.1.1. Overview of Establishments owned by women entrepreneurs:

Of the 8,050,819 women-owned enterprises, 65.12% are in rural areas and 34.88% are in urban areas. Most (83.19%) work without hired labor, rural 86.85% and urban 76.33%. About 34.3% are engaged in agricultural activities. The top five states with the highest percentage of women-owned firms are Tamil Nadu (13.51%), Kerala (11.35%), Andhra Pradesh (10.56%), West Bengal (10.33%), and Maharashtra (8.25%).

Refer Table 1,2 from annexure

3.1.3. Supply of finance to women-owned businesses

Total formal finance extended to women-owned MSMEs in 2012^[10] was around Indian rupees 2.31 trillion (\$42 billion). This credit supply originated from various types of financial institutions such as public sector bank non-banking financial corporations, and self-help group-bank linkage programs

Refer Table 3 from annexure

3.1.4. Government Schemes and Initiatives for Empowering Women Entrepreneurs

The government of India has launched initiatives like Start Up India and Stand-Up India to boost women's entrepreneurship. Start-Up India encourages innovation and supports start-ups by providing a conducive ecosystem and providing bank loans for business start-ups. The Union Budget has significantly increased seed funding for startups and plans to set up 25 technology-business incubators for training, allocating ₹10 crore to develop world-class incubators. ((Samantroy & Tomar, 2018)

The Stand-Up India Scheme, launched on April 5, 2016, aims to provide bank loans between ₹10 lakh and ₹1 crore to at least one SC/ST or one-woman borrower in a bank branch to start new businesses. It focuses on providing support to SC/ST and women borrowers to access institutional credit targeting non-agricultural entrepreneurs. The initiative aims to support both new and

established startups, with the government allocating an initial amount of ₹10,000 crore for refinancing through the Small Industries Development Bank of India (SIDBI) and establishing a credit guarantee fund of ₹5,000 crore via the National Credit Guarantee Trust Company. Additionally, it provides integrated loans and debit cards. Another key program is Rashtriya Mahila Kosh (RMK), a national credit fund for women established in 1993 under the Ministry of Women and Child Development. RMK provides micro-credit to women SHGs and entrepreneurs in rural and urban areas, improving their financial and entrepreneurial skills through training and marketing support. Initially funded with ₹31 crore, the corpus was increased to ₹100 crore by 2009-2010.

Established in 2013, Bharatiya Mahila Bank Limited is India's first bank to focus on women's financial empowerment. It aims to support women across all sectors, with special emphasis on the economically marginalized, underbanked, and those from rural or urban areas. The bank offers tailored products and services to cater to the needs of women entrepreneurs, self-help groups, salaried women, and high-net-worth individuals (Mishra et al., 2024).

Refer Table 4 from annexure

3.1.5. Government Schemes

The Government of India has formulated a 14-point action plan aimed at improving women's access to bank financing, especially for MSMEs. The plan sets a target of 5% for lending to women by public sector banks actively monitored by the Reserve Bank of India (RBI).

Refer Table 5 from annexure

3.1.6. Financial Initiatives by MSMEs

Refer Table 6,7, 8 from annexure

3.2. Growth of Digital Literacy

The Women Entrepreneurship Platform (WEP), launched by NITI Aayog in 2017, aims to foster a supportive ecosystem for women entrepreneurs in India. As a unified aggregator, WEP leverages industry linkages and awareness of existing programs. It provides access to services such as

incubation, skilling, mentorship, marketing, funding, compliance, and networking. Since its launch in 2018, 26,500 women have registered and benefited from WEP.

Digital access empowers women to enhance their professional skills, improve their financial literacy, inform about beneficial government programs, and gain knowledge about nutrition (“Impact of Digital Transformation on Women Entrepreneurs in Delhi,” 2024). The Internet program, a collaboration between Google and Tata Trusts, will merge Google's technological capabilities with Tata Trusts' experience in rural areas. In three years, the initiative has impacted more than 15 million women in 150,000 villages, with 25% using it regularly and one-third noting an enhancement in their economic conditions. Supported by local governments, the initiative has bravely challenged social norms and has garnered positive acceptance within the community (bold philanthropy).

3.3. Factors Influencing poor Women Entrepreneurship

Lal and Sahai (Saraswat & Lathabahvan, n.d.) (2008), carried out a comparative analysis of the obstacles and future objectives of women entrepreneurs in urban Lucknow, emphasizing dedication, entrepreneurial hurdles, and growth strategies. The research indicated that although an increasing number of women are becoming involved in family-run enterprises, they encounter diminished status and considerable challenges in achieving business development and growth.

Singh (2008) investigated the factors influencing women's involvement in entrepreneurship in India, focusing on their business characteristics and the difficulties they face. Important barriers are limited exposure to successful entrepreneurs, social rejection, family obligations, gender bias, insufficient networks and inadequate financial support from banks.

Tambunan (2009) investigated the current trends of women entrepreneurs in small and medium-sized enterprises (SMEs) in Asian developing countries, using data analysis and a review of relevant literature. Women's involvement in entrepreneurship continues to be low due to barriers such as inadequate education, insufficient funding, and cultural or religious restrictions.

3.4. Hypothesis

a. H1: There is significant difference about the financial and digital literacy between rural and urban women entrepreneurs

b. H1: There is significant difference about investment pattern between rural and urban women entrepreneurs.

4.0. Research Methodology

Data is collected from both primary and secondary data sources. Secondary data is collected to sustain hypothesis1. To understand the landscape and growth status of women entrepreneurship in India and to sustain hypothesis2 primary data is collected from 125 small and medium-sized entrepreneurs using a convenient sampling method. Because of time constraints collecting all 200 sample sizes that are determined has become difficult. The data is collected using a structured questionnaire with 17 items constructed using Likert's scale

4.1. Data Analysis.

Table 9: ANOVA of Rural Women Entrepreneurs

Dependent Variables/ Independent Variables	Income		Education		Geographical area		Availability of technology		Knowledge drive by govt	
	F	Sig	F	Sig	F	Sig	F	Sig	F	Sig
FA	9.742	0.000	0.524	0.669	1.447	0.244	0.335	0.853	1.719	0.166
DA	1.449	0.212	0.670	0.576	1.284	0.294	1.301	0.288	1.778	0.154
FD	12.373	0.000	0.960	0.422	0.477	0.700	0.546	0.703	2.264	0.051
IB	3.188	0.010	0.640	0.594	0.524	0.669	0.223	0.924	1.042	0.399

FA – Financial awareness

DA – Digital awareness

FD – Financial and Digital Awareness

IB – Investment Behavior

Interpretation:

Financial awareness is significant with Income and Financial digital awareness. Knowledge drive by government is also significant with Financial Digital Awareness. All other variables are not significant as the significant values are above 0.05.

Table 10: ANOVA of Urban Entrepreneurs

Dependent Variables/ Independent Variables	Income		Education		Geographical area		Availability of technology		Knowledge drive by govt	
	F	Sig	F	Sig	F	Sig	F	Sig	F	Sig
FA	1.861	0.176	2.583	0.048	0.113	0.952	2.583	0.048	1.603	0.187
DA	1.578	0.194	1.770	0.149	0.299	0.826	1.770	0.149	0.983	0.425
FD	3.264	0.051	3.138	0.022	0.044	0.988	3.138	0.022	1.672	0.170
IB	1.042	0.399	2.278	0.053	0.541	0.656	2.278	0.073	3.118	0.052

FA – Financial awareness

DA – Digital awareness

FD – Financial and Digital Awareness

IB – Investment Behavior

Interpretation:

Education, Availability of technology is significant with financial awareness. FD is significant with Income, Education, Availability of Technology. Investment Behavior is significant with Education, Availability of technology and Knowledge driven by government.

Table 11: ANOVA of Rural and Urban Entrepreneurs

Dependent Variables/ Independent Variables	Income		Education		Geographical area		Availability of technology		Knowledge drive by govt	
	F	Sig	F	Sig	F	Sig	F	Sig	F	Sig
FA	11.680	0.000	11.680	0.000	9.7420	0.000	9.7420	0.000	2.583	0.048
DA	1.223	0.305	21.223	0.503	1.449	0.212	1.449	0.212	1.770	0.149
FD	15.208	0.000	9.208	0.000	12.373	0.000	12.373	0.000	3.138	0.022
IB	3.261	0.014	5.261	0.010	3.188	0.010	3.188	0.010	2.278	0.073

FA – Financial awareness

DA – Digital awareness

FD – Financial and Digital Awareness

IB – Investment Behavior

Interpretation: At first it can be observed that FA, FD is significant with all independent variables. IB is also significant with all variables and it is slightly significant for knowledge driven by government.

5.0 Discussion: From Table 9, it can be interpreted that Women entrepreneurs in rural areas increasingly consider income a key factor for business development. Factors such as education, geographical location, and access to technology are not identified as having a major impact on their growth. However, government-led initiatives to develop knowledge are vital to the progress of their organizations.

From Table 10, Urban women entrepreneurs recognize that education and access to technology play a vital role in their overall development and entrepreneurial success. Income is also recognized as an important factor, especially in promoting their progress in certain areas. Furthermore, they noted the importance of government-initiated knowledge drives in promoting investment behavior, emphasizing its effectiveness in improving their business skills. However, they do not consider geographical location a major factor influencing their growth. Ultimately, they focus on using education, technology, and supportive government programs for ongoing

progress. From Table 11, it can be interpreted that both rural and urban women entrepreneurs identified income, education, and access to technology as key factors contributing to their growth in important dimensions. These factors had a significant impact on their overall progress and entrepreneurial success. Government-led initiatives were also found to be crucial, especially for entrepreneurial development and they had a slightly significant effect on investment behavior. In contrast, location had minimal influence and was not considered a significant factor in influencing their growth. In conclusion, the growth of women entrepreneurs in rural and urban contexts. The findings underscore the critical importance of financial stability, education, technological resources, and government assistance in promoting the growth of entrepreneurs. Based on the data, it is clear that income acts as the main driver for the growth of women entrepreneurs in both rural and urban areas. Women in rural areas, mainly working in unorganized sectors with limited market access, emphasize the need for stable income due to their economic hardship. As a result, they often seek financial assistance from government programs to help stabilize their cash flow. Education is low in priority as most have only partial education and their business activities are usually confined to small areas; geographical factors were not considered important. Furthermore, due to their limited income and education levels, they do not consider digital literacy important to the growth of their businesses. However, both digital awareness and internet access are important areas that need attention. While financial assistance from the government is beneficial, support in building digital awareness is also needed to encourage business expansion. Urban women are more advanced when compared with rural women. Urban women entrepreneurs, due to their extensive experiences, recognize the importance of various factors for business progress. Along with income, they consider access to education and technology essential for growth. Although digital literacy itself is not emphasized, they appreciate the importance of financial digital literacy and its contribution to their development. Improves the decision-making process regarding their specific business needs. In terms of other factors such as access to technology and government support, these factors are broadly relevant, but education remains a distinctive resource that directly affects their business success. Table 11 indicates that geographic region does not significantly affect entrepreneurship, indicating that there are no significant differences between women entrepreneurs in urban and rural areas. Both groups understand the relevance of various factors necessary for business growth, and their investment policies reflect aspirations for future growth. They place

more importance on obtaining funding than promoting their products, suggesting that financial challenges are the main barriers to business expansion, which explains the lack of emphasis on marketing. Although financial digital literacy is recognized, it is seen more in the context of financial management than digital competence. In essence, improving marketing programs is not considered a key element in their investment strategies.

6.0. Conclusion:

This research explored factors influencing investment behavior among women entrepreneurs in rural and urban areas, focusing on critical factors such as Financial Awareness Digital awareness and financial and digital awareness. The results indicate that income significantly influences the investment and growth choices of women entrepreneurs in both rural and urban environments, Access to education and technology are other key factors, especially for those in urban areas. Rural business owners tend to focus on financial stability, largely because they participate in the informal economy and have less exposure to various markets. Conversely, urban entrepreneurs are more likely to integrate educational and technological tools into their business strategies, which illustrates their enhanced access to opportunities and resources. Despite these differences, the study uncovered a significant deficit in digital literacy, especially in rural areas. Both demographics recognize the importance of financial digital literacy, yet overall digital literacy is often neglected. In particular, rural women entrepreneurs do not emphasize digital tools or platforms for business improvement, mainly due to limited access to technology and education. Findings suggest that enhancing digital literacy is a key objective to foster the sustainable development of women entrepreneurs. It enables women from rural and urban areas to use technology more efficiently, thereby improving their business skills and investment practices. Future plans and projects should focus on closing the digital literacy gap and empowering women entrepreneurs, particularly by providing those in rural regions with the resources necessary for success in the expanding digital marketplace.

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