

Women entrepreneurship in the era of digital transformation

Dr. Harshitha S ¹, Bhavyashree BM ², Mrs. Laxmi M ³, and Naina Malhotra ⁴

¹ Assistant Professor, Department of MBA, SJB Institute of Technology,
Email: harshu747@gmail.com

² Assistant professor, Department of Commerce and Management, International Institute of Business Studies (IIBS), Email: bhavyavishrutha@gmail.com

³ Assistant Professor, Department of MBA, SJB Institute of Technology,
Email: laxmitanay@gmail.com

⁴ Assistant Professor, Department of English, Graphic Era Hill University, Haldwani Campus
Email: malhotranaina24@gmail.com

Abstract---Women entrepreneurship has become an important driver of economic growth, innovation, employment generation, and social empowerment in the modern digital economy. The rapid advancement of digital technologies such as e-commerce, artificial intelligence, fintech, cloud computing, social media, and digital marketing has significantly transformed entrepreneurial ecosystems and created new opportunities for women entrepreneurs. Digital transformation has enabled women to overcome traditional barriers related to finance, mobility, market accessibility, and communication by facilitating online business operations and flexible work environments. The present study examines the role of digital transformation in promoting women entrepreneurship and identifies the opportunities and challenges associated with digital business environments. The study also evaluates the impact of digital entrepreneurship on women empowerment and economic development while suggesting suitable strategies and policy measures for strengthening women-led enterprises. The research adopts a descriptive and analytical methodology based on secondary data collected from journals, books, conference proceedings, government reports, online databases, and published studies from 2010 to 2026. The findings reveal that digital technologies significantly contribute to financial inclusion, business innovation, market expansion, employment generation, and entrepreneurial sustainability among women entrepreneurs. However, challenges such as digital illiteracy, financial constraints, cybersecurity risks, and socio-cultural barriers continue to affect women-owned enterprises, especially in rural regions. The study concludes that improving digital literacy, technological accessibility, financial

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support systems, and policy initiatives is essential for promoting inclusive and sustainable women entrepreneurship in the era of digital transformation.

Keywords---Women Entrepreneurship, Digital Transformation, Digital Economy, Women Empowerment.

Introduction

Women entrepreneurship has emerged as a significant driver of economic growth, innovation, and social transformation in the contemporary global economy. In the era of digital transformation, technological advancements such as e-commerce, artificial intelligence, social media platforms, cloud computing, fintech, and digital marketing have reshaped the entrepreneurial ecosystem, enabling women to overcome many traditional barriers associated with business ownership. Historically, women entrepreneurs faced challenges including limited access to finance, restricted mobility, gender discrimination, inadequate market exposure, and socio-cultural constraints. However, the digital revolution has created unprecedented opportunities for women to establish, manage, and expand businesses beyond geographical boundaries. Digital technologies have democratized entrepreneurship by reducing entry barriers, lowering operational costs, and providing access to global customers and online financial systems. Scholars have emphasized that digital transformation serves as a catalyst for women's economic empowerment by promoting inclusion, flexibility, and innovation in business activities. Salamzadeh et al. (2024) highlighted those digital technologies act as a transformative and emancipatory force for women entrepreneurs, helping them transcend socio-cultural limitations and participate more actively in economic development. Similarly, Taheri (2024) argued that digitalization and social media platforms significantly contribute to sustainability and entrepreneurial growth among women-led enterprises. The increasing integration of digital platforms into business operations has enabled women entrepreneurs to enhance productivity, improve communication, and build competitive advantages in dynamic markets. Moreover, the post-pandemic digital shift accelerated online business adoption, encouraging women to engage in home-based enterprises, freelancing, and digital commerce. This transformation has not only enhanced women's participation in entrepreneurship but also strengthened their financial independence and social empowerment. Therefore, women entrepreneurship in the digital age represents a critical area of academic and policy interest, as it reflects the intersection of technology, innovation, gender equality, and sustainable economic development.

The rise of digital transformation has significantly altered the structure and functioning of entrepreneurial activities across industries, particularly benefiting women-owned micro, small, and medium enterprises (MSMEs). Digital tools and online platforms have enabled women entrepreneurs to access markets, customers, suppliers, and financial institutions more efficiently than ever before. Technologies such as mobile banking, digital payments, online marketplaces, and cloud-based business systems have reduced dependency on traditional business infrastructures and facilitated flexible work environments. Researchers have noted that women entrepreneurs increasingly utilize social media platforms such as Instagram, Facebook, LinkedIn, and WhatsApp for branding, customer engagement, and sales promotion, thereby enhancing their visibility and market reach. Rathore and Gupta (2024) observed that digitalization and social media usage transformed business operations during and after the COVID-19 pandemic, allowing women entrepreneurs to continue their businesses from home and adapt to changing market conditions. Likewise, Pandey (2024) emphasized that digital entrepreneurship has improved the social empowerment of women in India by enabling access to broader markets, innovative business models, and financial opportunities. Digital finance and fintech innovations have also played a crucial role in supporting women entrepreneurship by addressing issues related to financial inclusion and credit accessibility. Guo et al. (2024) found that digital finance significantly reduces gender-based economic disparities and enhances women's bargaining power and entrepreneurial participation. In addition, digital ecosystems provide opportunities for networking, mentorship, online

learning, and skill development, which are essential for entrepreneurial success. Despite these advancements, women entrepreneurs still encounter several challenges, including digital literacy gaps, cybersecurity concerns, technological affordability, and unequal access to digital resources. Nevertheless, digital transformation continues to create inclusive entrepreneurial opportunities by enabling women to compete effectively in both local and global markets. Thus, the integration of digital technologies into entrepreneurship has become a powerful mechanism for promoting women's economic participation, innovation capacity, and business sustainability in the modern era.

Digital transformation has also redefined innovation and business strategy among women entrepreneurs by encouraging the adoption of technology-driven business models and digital innovation practices. In the contemporary entrepreneurial landscape, women are increasingly participating in sectors such as e-commerce, digital services, online education, health technology, fashion technology, and content creation, which rely heavily on digital infrastructures. The availability of affordable internet services, smartphones, and online platforms has facilitated entrepreneurial entry for women, especially in developing countries where traditional business opportunities were previously limited. According to the study by Omoush (2024), social commerce adoption among women entrepreneurs is influenced by entrepreneurial mindset, social commerce literacy, collaborative ecosystems, and perceived business value. Such findings indicate that digital ecosystems not only provide technological support but also foster collaboration and innovation among women-led businesses. Furthermore, digital transformation enhances organizational flexibility, enabling entrepreneurs to make data-driven decisions, improve customer experiences, and implement innovative marketing strategies. Recent literature also suggests that digital innovation among women entrepreneurs contributes to sustainable development by promoting environmentally friendly practices, remote operations, and efficient resource utilization. The systematic review conducted by researchers in *Digital Business* (2026) highlighted that digital innovation is increasingly becoming central to women entrepreneurship, particularly in fostering growth-oriented ventures and technology-intensive enterprises. The study further emphasized that women entrepreneurs benefit from digital platforms that support networking, mentorship, crowdfunding, and innovation ecosystems. Moreover, the emergence of artificial intelligence, big data analytics, and automation tools has empowered women entrepreneurs to optimize operations, personalize customer engagement, and scale businesses more effectively. These developments signify that digital transformation is not merely a technological phenomenon but a strategic process that reshapes entrepreneurial behavior, business models, and market competitiveness. Consequently, women entrepreneurs who successfully adopt digital technologies are better positioned to achieve long-term growth, resilience, and innovation in highly competitive business environments.

Despite the numerous opportunities created by digital transformation, women entrepreneurs continue to face multiple structural, technological, and socio-cultural challenges that hinder their entrepreneurial growth and sustainability. One of the major barriers is the digital divide, which refers to unequal access to digital technologies, internet connectivity, and digital skills among women, particularly in rural and underdeveloped regions. Limited digital literacy restricts the ability of women entrepreneurs to effectively utilize digital platforms, e-commerce systems, and advanced technologies for business development. Furthermore, access to finance remains a persistent challenge, as women often face discrimination in obtaining credit, venture capital, and investment support. Research studies have consistently indicated that women-led enterprises receive lower financial support compared to male-led businesses, affecting their capacity to scale and innovate. Online harassment, cybersecurity risks, and lack of technological infrastructure further complicate women's participation in digital entrepreneurship. According to Anbalagan and Sudha (2024), although digital platforms provide market access and business opportunities, women entrepreneurs remain vulnerable to issues such as cyber threats, digital exclusion, and unequal access to technological resources. Similarly, Reddit discussions and contemporary studies have highlighted challenges such as gender bias, lack of mentorship, networking limitations, and balancing family responsibilities with entrepreneurial activities. Women entrepreneurs also encounter societal stereotypes and cultural biases that undermine their confidence,

leadership opportunities, and decision-making authority. In many developing economies, patriarchal norms continue to influence women's mobility, education, and entrepreneurial aspirations. Additionally, technological transformation demands continuous learning and adaptation, which can be difficult for women lacking adequate training and institutional support. Therefore, addressing these barriers requires coordinated efforts from governments, educational institutions, financial organizations, and technology providers to promote digital inclusion, entrepreneurship education, mentorship programs, and gender-sensitive policies. Strengthening digital infrastructure and improving access to affordable technologies can further enhance women's participation in entrepreneurship and contribute to inclusive economic development in the digital era.

women entrepreneurship in the era of digital transformation represents a transformative force that contributes significantly to economic growth, innovation, employment generation, and social empowerment. The integration of digital technologies into entrepreneurial ecosystems has created new pathways for women to establish businesses, access global markets, and achieve financial independence. Digital platforms, fintech systems, social media, and e-commerce technologies have enabled women entrepreneurs to overcome traditional business barriers and participate more actively in economic activities. Moreover, digital transformation has enhanced innovation capabilities, operational efficiency, and business sustainability among women-led enterprises. Contemporary research demonstrates that digital entrepreneurship empowers women by improving access to information, markets, finance, and professional networks while fostering confidence, leadership, and social recognition. At the same time, challenges such as digital inequality, financial constraints, technological barriers, and socio-cultural discrimination continue to limit the full potential of women entrepreneurs. Future policy frameworks should therefore focus on strengthening digital literacy, financial inclusion, entrepreneurship training, and technological accessibility for women across different socio-economic backgrounds. Governments and institutions must also encourage innovation ecosystems, mentorship initiatives, and supportive regulatory frameworks that promote gender equality in entrepreneurship. Furthermore, academic research should continue exploring the evolving relationship between digital transformation and women entrepreneurship, particularly in emerging economies and technology-intensive sectors. The future of entrepreneurship will increasingly depend on digital capabilities, innovation, and inclusivity, making women entrepreneurs vital contributors to sustainable development and global competitiveness. As digital technologies continue to evolve, women entrepreneurs are expected to play a more influential role in shaping modern business environments, creating employment opportunities, and driving socio-economic progress worldwide. Hence, empowering women entrepreneurs through digital transformation is not only essential for gender equality but also for achieving broader economic and developmental objectives in the twenty-first century.

Review of Literature

Sharma and Verma (2024) examined the challenges faced by women entrepreneurs during the post-pandemic period in India. Their study focused on how artificial intelligence and digital platforms helped women-owned businesses survive economic disruptions caused by COVID-19. The researchers collected data from 100 women entrepreneurs actively using social media and online platforms for business operations in Rajasthan. The findings revealed that women-led enterprises experienced financial instability due to disrupted supply chains, reduced bargaining power, and declining customer demand. However, digital technologies such as e-commerce websites, AI-supported marketing tools, and online payment systems enabled women entrepreneurs to continue business operations and maintain customer engagement. The study concluded that digital transformation significantly supports business continuity and resilience among women entrepreneurs.

Mehta et al. (2023) investigated how small and medium-sized enterprises utilized digital technologies to improve resilience during crisis situations like the COVID-19 pandemic. The study adopted a qualitative methodology and analyzed case studies of eight Indian entrepreneurs whose business

operations changed significantly due to economic disruptions. The researchers proposed a three-level resilience framework including micro, meso, and macro dimensions. The findings showed that SMEs increasingly depended on digital technologies such as cloud computing, online communication tools, e-commerce systems, and digital payment platforms to sustain business activities. The study emphasized that entrepreneurs with stronger digital adoption capabilities were more successful in sensing market changes, seizing opportunities, and transforming business processes effectively during uncertain economic conditions.

Reddy et al. (2022) explored the relationship between internet competencies and entrepreneurial intentions among university students, especially women interested in digital entrepreneurship. The study adopted a descriptive research design and analyzed responses from 246 undergraduate students using PLS-SEM analysis. The findings revealed that students possessing higher operational, informational, and creative internet skills demonstrated stronger entrepreneurial orientation and more positive attitudes toward entrepreneurship. Women students exposed to online business environments and digital marketing platforms showed greater interest in entrepreneurial activities. However, the study reported mixed results regarding the direct relationship between internet competence and entrepreneurial intention. The researchers concluded that digital literacy and entrepreneurship education play important roles in encouraging women participation in technology-driven businesses.

Nair and Kulkarni (2017) highlighted the rapid growth of the e-commerce industry in India and its importance in supporting women entrepreneurship. The study explained that increasing internet penetration and digital technologies transformed traditional business models and created new online business opportunities for women entrepreneurs. The researchers observed that although internet accessibility in India remained comparatively lower than developed nations, online businesses expanded rapidly across multiple sectors. E-commerce platforms enabled women entrepreneurs to promote products, communicate with customers, and conduct business operations without maintaining physical stores. The study further emphasized that digital marketing and social media platforms significantly improved market access and business visibility for women entrepreneurs operating in sectors such as fashion, handicrafts, and home-based services.

Srinivasan (2016), e-commerce and online business platforms significantly improved financial opportunities and economic independence among women entrepreneurs in India. The study explained that digital commerce allows women to manage businesses from home while balancing household responsibilities and professional activities. Online marketplaces and social media platforms provided affordable methods for promoting products and connecting with customers. Women entrepreneurs involved in handicrafts, homemade products, fashion items, and beauty services experienced substantial business growth through online selling opportunities. The study also highlighted that digital payment systems improved financial management and transaction efficiency among women-led enterprises. The researchers concluded that e-commerce acts as a powerful tool for promoting women empowerment and entrepreneurial development.

Objectives of the Study

- To examine the role of digital transformation in promoting women entrepreneurship.
- To identify opportunities created by digital technologies for women entrepreneurs.
- To analyze challenges faced by women entrepreneurs in the digital economy.
- To evaluate the impact of digital entrepreneurship on women empowerment and economic development.
- To suggest strategies and policy measures for strengthening women entrepreneurship in the era of digital transformation.

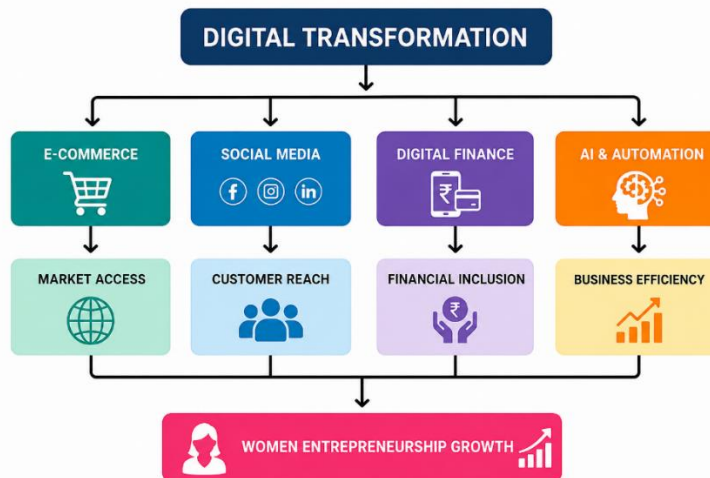
Research Methodology

The present study is descriptive and analytical in nature and is primarily based on secondary data collected from various academic and professional sources. The research focuses on examining the relationship between digital transformation and women entrepreneurship in the modern business environment. Relevant information was collected from research journals, books, conference proceedings, government reports, Scopus-indexed articles, Google Scholar publications, and online databases published between 2010 and 2026. The study particularly emphasizes literature related to digital technologies, e-commerce, fintech, social media marketing, artificial intelligence, and women-led enterprises. Existing studies on women empowerment, digital inclusion, entrepreneurship development, and technological innovation were thoroughly reviewed to understand the role of digital transformation in promoting entrepreneurial activities among women. The descriptive approach helped in understanding current trends and developments in digital entrepreneurship, while the analytical approach enabled critical examination of opportunities and challenges faced by women entrepreneurs in digital business environments.

The study examined how technologies such as online marketplaces, digital payment systems, cloud computing, and social media platforms influence business growth, financial inclusion, and innovation among women entrepreneurs. The research also reviewed policy initiatives and digital programs supporting women entrepreneurship in India and globally, including Digital India, Startup India, and women-focused entrepreneurial development schemes. By reviewing contemporary literature and policy frameworks, the methodology provides a comprehensive understanding of the impact of digital transformation on women entrepreneurship, economic development, and women empowerment in the twenty-first century.

Role of Digital Transformation in Promoting Women Entrepreneurship

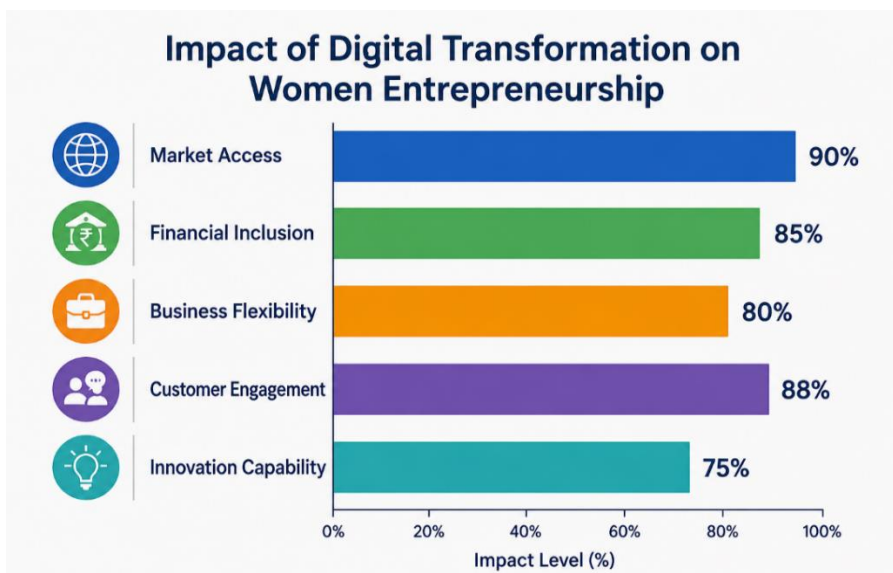
Digital transformation has significantly reshaped entrepreneurial ecosystems across the world and created new growth opportunities for women entrepreneurs. Technologies such as e-commerce platforms, digital marketing tools, social media applications, artificial intelligence, cloud computing, and fintech systems have transformed traditional business models into technology-driven entrepreneurial structures. Earlier, women entrepreneurs faced barriers such as limited mobility, lack of access to financial institutions, restricted market exposure, and socio-cultural discrimination. However, digital technologies have reduced these barriers by enabling women to establish and operate businesses online.



The rise of online marketplaces such as Amazon, Flipkart, Shopify, Etsy, and Meesho has enabled women entrepreneurs to reach global customers without maintaining physical stores. Social media platforms including Instagram, Facebook, WhatsApp Business, and LinkedIn have become effective marketing tools for branding, customer engagement, and sales promotion. Women entrepreneurs involved in fashion, beauty products, handmade goods, food services, and online education have increasingly adopted digital business models.

Digital transformation has also improved financial inclusion among women entrepreneurs. Fintech applications, digital wallets, mobile banking systems, and online payment platforms have simplified business transactions and enhanced financial accessibility. Technologies such as UPI, Paytm, Google Pay, and PhonePe support secure and efficient online transactions. Furthermore, digital entrepreneurship enables flexible working environments, allowing women to balance business operations with family responsibilities.

The COVID-19 pandemic accelerated digital adoption among women entrepreneurs. During lockdowns, many women shifted to online businesses and home-based enterprises to sustain income generation. Digital learning platforms and online entrepreneurship training programs also improved business knowledge and digital literacy among women entrepreneurs.



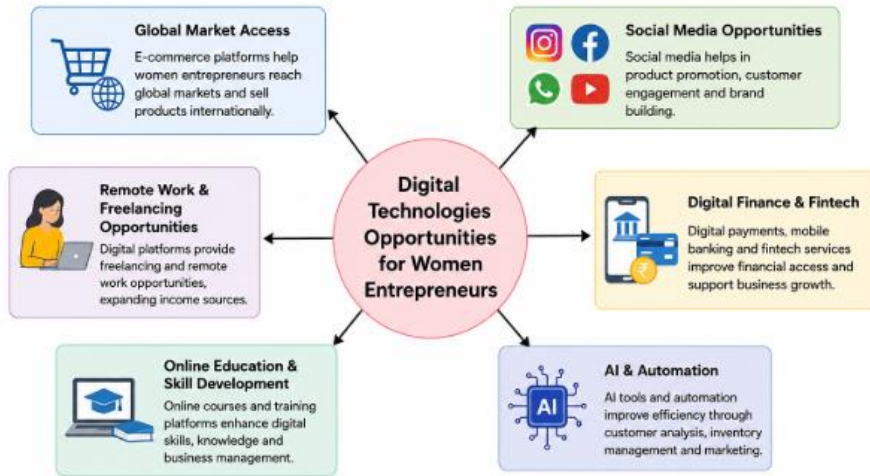
Opportunities Created by Digital Technologies for Women Entrepreneurs

Digital technologies have created numerous opportunities for women entrepreneurs by reducing operational barriers and improving market accessibility. One of the major opportunities is global market expansion through e-commerce platforms. Women entrepreneurs can now market and sell products internationally without investing heavily in physical infrastructure. Digital marketplaces provide low-cost business opportunities and allow women to participate in global trade.

Social media platforms provide additional entrepreneurial opportunities. Women entrepreneurs use Instagram, Facebook, Pinterest, YouTube, and WhatsApp Business to promote products, engage customers, and build brand identity. Influencer marketing and content creation have become important income-generating activities for women entrepreneurs.

Digital finance and fintech services have also enhanced financial opportunities for women-owned businesses. Mobile banking, digital wallets, and online payment systems simplify financial transactions and improve access to formal banking services. Fintech applications also support online loans, microfinance, and investment opportunities for women entrepreneurs.

Online education and digital skill development platforms create opportunities for women to improve entrepreneurial knowledge and business management capabilities. Platforms such as Coursera, Udemy, edX, and LinkedIn Learning provide affordable entrepreneurship training and digital marketing education.



Artificial intelligence and automation technologies provide opportunities for innovation and operational efficiency. Women entrepreneurs can utilize AI-based tools for customer analysis, inventory management, and personalized marketing strategies. Remote working opportunities and freelancing platforms have also expanded employment and income generation possibilities for women.

Challenges Faced by Women Entrepreneurs in the Digital Economy

1. Digital Illiteracy

Digital illiteracy remains a major challenge for women entrepreneurs, particularly in rural and economically weaker regions. Many women lack adequate knowledge of digital platforms, online business tools, cybersecurity practices, and digital financial systems, limiting their ability to effectively participate in digital entrepreneurship and technology-driven business operations.

2. Digital Divide and Internet Accessibility

Limited internet connectivity and poor technological infrastructure significantly restrict women entrepreneurs from accessing digital opportunities. High costs of smartphones, laptops, and internet services create barriers for women, especially in rural areas where unstable network connectivity affects online communication, marketing activities, and digital transactions.

3. Financial Constraints

Women entrepreneurs often face financial barriers such as limited access to loans, venture capital, and investment support. Gender bias in financial institutions and lack of collateral ownership reduce funding opportunities for women-owned enterprises, making it difficult to establish, expand, and sustain businesses in competitive digital markets.

4. Cybersecurity Risks and Online Harassment

Cybersecurity threats such as online fraud, hacking, identity theft, and cyberbullying create insecurity among women entrepreneurs operating in digital environments. Fear of financial loss and online

harassment discourages many women from fully utilizing e-commerce platforms, social media marketing, and digital business technologies.

5. Socio-Cultural Barriers

Socio-cultural factors including patriarchal norms, gender stereotypes, and family responsibilities continue to affect women entrepreneurship. Many women experience restrictions in decision-making, mobility, and professional networking, which limits entrepreneurial participation and reduces opportunities for business growth in the digital economy.

Impact of Digital Entrepreneurship on Women Empowerment and Economic Development

1. Financial Empowerment and Economic Independence

Digital entrepreneurship has significantly improved financial empowerment among women by providing opportunities for independent income generation and business ownership. Through e-commerce platforms, online services, digital marketing, and freelancing opportunities, women entrepreneurs can establish businesses with lower investment and operational costs. Digital payment systems, mobile banking applications, and fintech services further support financial inclusion by enabling secure and convenient transactions. Women entrepreneurs are increasingly participating in sectors such as fashion, beauty products, online education, food services, and digital consulting. Increased income generation enhances women's economic independence and strengthens their decision-making authority within families and society. Financial empowerment also improves access to education, healthcare, and better living standards. Additionally, women entrepreneurs become less dependent on traditional employment opportunities and gain confidence in managing financial resources independently. Digital entrepreneurship therefore acts as an important tool for reducing gender-based economic inequality and promoting sustainable financial growth among women in both urban and rural communities.

2. Employment Generation and Business Growth

Digital entrepreneurship contributes significantly to employment generation and business expansion in the modern economy. Women-led digital enterprises create direct and indirect employment opportunities in areas such as e-commerce management, digital marketing, content creation, online tutoring, graphic design, and customer support services. Small online businesses often expand into larger enterprises through social media marketing, digital advertising, and global online marketplaces. The flexibility of digital platforms enables women entrepreneurs to employ remote workers and freelancers from different regions, thereby increasing economic participation and reducing unemployment. Furthermore, digital business environments support scalability, allowing entrepreneurs to reach wider customer bases and increase revenue generation. Women entrepreneurs also contribute to the development of micro, small, and medium enterprises (MSMEs), which play an important role in national economic development. As digital businesses grow, they stimulate local economies, increase consumer spending, and support industrial productivity. Therefore, digital entrepreneurship not only strengthens women-owned businesses but also contributes to broader economic growth and employment creation.

3. Social Empowerment and Leadership Development

Digital entrepreneurship enhances social empowerment by improving women's confidence, leadership abilities, and participation in professional and economic activities. Women entrepreneurs engaged in digital businesses develop communication skills, decision-making capabilities, innovation skills, and managerial competencies through continuous interaction with customers, suppliers, and online business communities. Social media platforms and online networking opportunities allow women entrepreneurs to connect with mentors, investors, and professional organizations globally. Increased visibility and recognition through digital platforms improve women's social status and encourage greater participation in entrepreneurial ecosystems. Women entrepreneurs also become role models within families and communities, inspiring other women to pursue entrepreneurship and financial independence. Digital entrepreneurship further supports gender equality by challenging traditional stereotypes that limit women's economic participation. Women involved in digital enterprises gain greater autonomy and

influence in household and community decision-making processes. Consequently, digital entrepreneurship contributes not only to economic empowerment but also to social transformation and leadership development among women.

4. Innovation, Inclusive Growth, and Sustainable Development

Digital entrepreneurship promotes innovation and inclusive economic development by enabling women to adopt advanced technologies and introduce creative business solutions. Technologies such as artificial intelligence, cloud computing, digital analytics, and automation help women entrepreneurs improve operational efficiency, customer engagement, and product innovation. Women entrepreneurs increasingly participate in technology-driven sectors including online education, health technology, agritech, digital finance, and creative industries. Digital business models also support inclusive growth by providing entrepreneurial opportunities for women from rural, marginalized, and economically weaker communities. Home-based online businesses reduce geographical barriers and enable participation from women who may face mobility restrictions. Furthermore, digital entrepreneurship contributes to sustainable development by encouraging paperless transactions, remote work systems, and environmentally friendly business operations. Governments and international organizations also recognize women-led digital enterprises as important contributors to sustainable economic growth and gender equality. Thus, digital entrepreneurship plays a crucial role in promoting innovation, social inclusion, and long-term economic sustainability in the digital era.

Strategies and Policy Measures for Strengthening Women Entrepreneurship in the Era of Digital Transformation

1. Promoting Digital Literacy and Entrepreneurship Education

One of the most important strategies for strengthening women entrepreneurship is improving digital literacy and entrepreneurship education. Many women entrepreneurs, particularly in rural and economically weaker regions, lack sufficient knowledge regarding digital platforms, online business operations, cybersecurity, and digital financial systems. Governments, educational institutions, and private organizations should conduct regular training programs focusing on e-commerce, social media marketing, digital payment systems, artificial intelligence, and online customer management. Entrepreneurship education should also be integrated into school and college curricula to encourage entrepreneurial thinking among young women. Online learning platforms, webinars, workshops, and digital skill development programs can help women acquire the technological knowledge necessary for operating businesses in digital environments. Enhancing digital literacy will improve women's confidence, innovation capability, and participation in technology-driven entrepreneurial activities.

2. Improving Financial Inclusion and Access to Funding

Financial inclusion is essential for promoting women entrepreneurship in the digital era. Many women entrepreneurs face difficulties in accessing loans, venture capital, investment opportunities, and formal banking services due to gender discrimination and lack of collateral ownership. Governments and financial institutions should introduce women-focused financial schemes such as low-interest business loans, startup grants, microfinance support, and digital banking services. Fintech applications and mobile banking systems should be expanded to rural and semi-urban areas to improve financial accessibility. Special financial assistance programs for women-led startups and small businesses can encourage entrepreneurship and business expansion. Furthermore, financial literacy programs should educate women entrepreneurs about digital finance, investment management, taxation, and online financial security. Improved financial support systems will strengthen business sustainability and economic independence among women entrepreneurs.

3. Strengthening Digital Infrastructure and Technological Accessibility

Strong digital infrastructure is necessary for the successful growth of women entrepreneurship. Limited internet connectivity, poor technological infrastructure, and high costs of digital devices remain major barriers for women entrepreneurs, particularly in rural areas. Governments should invest in expanding affordable high-speed internet services, mobile network coverage, and digital communication systems across urban and rural regions. Public and private organizations should also provide affordable

smartphones, laptops, and technological resources for women entrepreneurs. Digital business support centers and community technology hubs can help women access online business facilities, digital training, and e-commerce platforms. Improving technological accessibility will reduce the digital divide and enable more women to participate in digital entrepreneurship. Better infrastructure also supports online marketing, digital transactions, remote work, and global market access for women-owned enterprises.

4. Policy Support, Mentorship, and Networking Opportunities

Government policies and institutional support play an important role in strengthening women entrepreneurship. Governments should introduce women-friendly business policies including simplified business registration procedures, tax benefits, startup incentives, and digital entrepreneurship support schemes. Programs such as Digital India, Startup India, and Stand-Up India should provide special assistance for women-led enterprises. Mentorship programs, startup incubators, and professional networking platforms should also be developed to support women entrepreneurs with guidance, business advice, and collaboration opportunities. Online communities and entrepreneurship forums can connect women entrepreneurs with investors, industry experts, and successful business leaders. Cybersecurity awareness programs and legal protection measures should further ensure safe digital business environments for women. Effective policy support and mentorship systems will encourage innovation, business sustainability, and long-term entrepreneurial growth among women in the era of digital transformation.

Rural–Urban Comparative Perspective in Women Digital Entrepreneurship

The present study provides a discussion on women entrepreneurship in the digital era; however, a detailed comparative analysis between rural and urban women entrepreneurs has not been extensively covered. Significant differences exist between rural and urban entrepreneurial environments in terms of internet accessibility, technological infrastructure, digital literacy, financial inclusion, market connectivity, and awareness regarding digital business platforms. Urban women entrepreneurs generally have better access to high-speed internet services, professional networking opportunities, online training programs, and financial institutions, whereas rural women entrepreneurs often face infrastructural limitations, inadequate digital education, and restricted access to technological resources. Future research can therefore focus on conducting comparative empirical studies between rural and urban women entrepreneurs to understand variations in digital adoption, business performance, technological challenges, and entrepreneurial sustainability. Such studies may help policymakers design region-specific digital entrepreneurship programs, improve rural technological infrastructure, and develop inclusive digital ecosystems that support women entrepreneurs across different socio-economic and geographical backgrounds. Additionally, comparative analysis can contribute to reducing the rural–urban digital divide and promote balanced entrepreneurial development in the digital economy.

Conclusion

Women entrepreneurship in the era of digital transformation has emerged as a major contributor to economic growth, innovation, employment generation, and social empowerment. The integration of digital technologies such as e-commerce platforms, social media applications, artificial intelligence, fintech systems, cloud computing, and digital marketing tools has significantly transformed entrepreneurial ecosystems and created new opportunities for women entrepreneurs. Digital transformation has enabled women to overcome several traditional barriers related to mobility, market access, communication, and financial inclusion. Women entrepreneurs are increasingly utilizing online platforms to establish businesses, expand customer reach, improve operational efficiency, and achieve financial independence. Furthermore, digital entrepreneurship has enhanced women's participation in economic activities, strengthened leadership capabilities, and promoted inclusive and sustainable development. Since digital technologies continue to evolve rapidly, future studies should regularly

examine emerging digital trends, AI applications, fintech innovations, and changing entrepreneurial ecosystems to maintain the relevance and applicability of research findings

Despite these opportunities, the study identified several limitations and challenges affecting women entrepreneurship in the digital economy. Issues such as digital illiteracy, financial constraints, cybersecurity risks, socio-cultural barriers, and unequal technological accessibility continue to hinder the growth and sustainability of women-led enterprises. The study also acknowledges limitations related to dependence on secondary data, lack of empirical analysis, limited rural–urban comparative discussion, and rapidly changing technological environments. Since digital technologies evolve continuously, findings related to digital platforms, AI applications, fintech systems, and online business models may become outdated over time. Therefore, continuous research and updated empirical studies are necessary to understand emerging technological trends and their impact on women entrepreneurship. Future studies should focus on comparative regional analysis, sector-specific research, and evolving digital innovation ecosystems to provide deeper insights. Overall, empowering women entrepreneurs through digital transformation remains essential for achieving gender equality, economic sustainability, and inclusive socio-economic development in the twenty-first century.

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