IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 1, August 2026
Impact Factor: 8.2

Artificial Intelligence and the Future of Women Entrepreneurship in the IT Sector: Emerging Opportunities and Entrepreneurial Challenges

Dr. Pankaj Gambhir and Mansi Sharma
Assistant Professor & Research Supervisor Department of Commerce
SGTBS Govt. P.G. College, Bilaspur, Rampur (U.P.)
Research Scholar, MJP Rohilkhand University, Bareilly (U.P.), India
pankajgambhir31@gmail.com and sharmamansi2997@gmail.com

Abstract: *The Information Technology (IT) industry is undergoing significant changes as Artificial Intelligence (AI) launches new areas for innovation, business expansion and entrepreneurship. Women entrepreneurs are increasingly embracing AI technologies to set up startups, to enhance their business operations. To increase productivity and take part more in domestic and international markets. In the present study, the role of Artificial Intelligence in the future of women entrepreneurship in the IT sector was discussed, with a special focus on emerging opportunities and challenges for the entrepreneurs. It brings to the forefront the potential of leveraging AI-powered tools, automation, machine learning, data analytics, and digital platforms for business planning, decision-making, customer relationship management, and resource optimization, particularly for women entrepreneurs. The research also pinpoints the major challenges such as limited access to finance, gender inequality, technical knowledge, digital skills gap, cyber security threats, and lack of institutional support. Particular emphasis is placed on the Indian context and how government's initiatives, digital transformation and entrepreneurship development programmes are providing new opportunities for women entrepreneurs. The research method used in the study is descriptive and analytical descriptive method using secondary data or secondary sources of information. It seeks to grasp the potential of AI in fostering inclusive entrepreneurship, enhancing the role of women in the IT sector, and supporting sustainable economic growth.*

Keywords: Artificial Intelligence, Women Entrepreneurship, Information Technology, Digital Transformation, AI Based Startups, Entrepreneurial Opportunities, Gender Equality, Technological Innovation, Entrepreneurial Challenges, India.

I. INTRODUCTION

Artificial Intelligence (AI) is one of the most impactful technologies of today's business landscape. It is transforming the way organizations do business, make business decisions, create products and communicate with customers. The Information Technology (IT) industry has seen immense expansion with the help of AI-driven applications, machine learning, automation and digital platforms. The technological advancements have also opened new avenues for women entrepreneurs to start and grow their enterprises.

Women entrepreneurship has tremendous contribution in economic growth, employment creation, innovations and in social empowerment. Female participation in the IT industry is steadily growing in technology-based start-ups, software development, digital marketing, e-commerce and IT Consulting Services. Artificial Intelligence opens opportunities for them to cut costs, enhance business efficiency, tap into broader markets and compete in the digital economy.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 6, Issue 1, August 2026 Impact Factor: 8.2

But there are still some restrictions that have to be addressed by female entrepreneurs such as financial limitation, gender discrimination, deficient technical skills, poor professional networks and cyber security issues. On-going learning and adapting new technology are also essential when it comes to incorporating AI into business operations.

This study is to explore how AI is influencing the future of women entrepreneurship in the IT sector. It highlights new opportunities in business, significant challenges, and the possibilities of AI for supporting women's economic engagements and sustainable business growth.

1.1 Conceptual Framework of Artificial Intelligence and Women Entrepreneurship

Artificial Intelligence is the science of creating computer systems and technologies that can execute tasks normally performed by humans, such as learning, problem-solving, decision-making, understanding language, and analyzing data. AI encompasses several technologies such as Machine Learning, Natural Language Processing, Robotics, Predictive Analytics, and Intelligent Automation. In the context of business operations, these technologies are becoming more commonly used in order to enhance the efficiency, productivity and performance of the organization.

Women entrepreneurship is the activity of women in starting, managing and promoting business enterprises by using the resources of finance, human, technology and organization. Women business owners add value to the economy through employment creation, inventiveness of their products and services and financial independence. Women entrepreneurs are engaged in the IT industry in software development, IT consulting, digital services, technology startups, artificial intelligence solutions, and online platforms.

The concept of Artificial Intelligence in relation to entrepreneurship for women is rooted in the areas of technological empowerment, business innovations, and economic participation. AI empowers women entrepreneurs by offering tools to automate repetitive tasks, analyze market trends, gain insights into customer preferences, handle financial data, and enhance business decision-making. The digital platforms and AI-powered applications also give women the opportunity to run businesses with flexible working hours and appeal to customers who are not geographically close.

The framework also takes into account the opportunities and challenges of AI adoption. It provides an opportunity for better productivity, lower operations costs, global markets and new business models. Financial constraints, lack of digital skills, gender parity, resistance to data privacy and technology reliance are some of the challenges here. As a result, AI can be a valuable tool in boosting the competitiveness of women entrepreneurs in the IT industry to better engage in the entrepreneurial process.

1.2 Growth and Development of Women Entrepreneurship in the IT Sector

The rise of digital transformation, technological advancements, educational growth, and awareness of economic independence has led to significant progress in women entrepreneurship in the Information Technology sector. Internet connectivity, digital platforms and new business models based on technology have opened up new possibilities for women to build an enterprise, which has a relatively flexible structure.

Over the past few years, women have been increasingly stepping into various sectors of the IT industry, such as Software Development, Web Designing, Mobile Application Development, Digital Marketing, Cybersecurity, IT Consultancy, E-commerce, and more. The emergence of start-up ecosystems has also given rise to a new opportunity for women to come up with innovative products and technology-based services. Digital platforms are being leveraged by many female entrepreneurs to market their products, engage customers and make their way into the national and international market.

The Government of India has promoted women entrepreneurship with various policies and programmes like Startup India, Digital India and Startup women in India. The government, incubators, financial institutions and technology companies are also driving women's engagement in innovation and entrepreneurship.

Artificial Intelligence has also helped in this process by offering opportunities for automation, data-driven decision making, customer analysis and business process improvements. AI-powered tools can assist women entrepreneurs to handle enterprise operations, enhance marketing strategies, and create new services.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 6, Issue 1, August 2026 Impact Factor: 8.2

Despite all this, there are still some obstacles for women's involvement in the IT industry. There are still barriers to access to finance, poor technical training, social duties, gender discrimination and lack of networks. Hence, in order to foster the sustainable development of women entrepreneurship in the Information Technology (IT) industry, continuous skill development, institutional support, financial assistance and equal technological opportunities are necessary.

1.3 Role of Artificial Intelligence in Promoting Women Entrepreneurship

1. **Business Automation**: AI helps women entrepreneurs automate routine business activities, reducing manual work and saving time.
2. **Business Planning**: AI-powered tools can assist in business planning, forecasting, budgeting, and strategic decision-making.
3. **Digital Marketing:** AI tools can enhance advertising campaigns, segment customers, manage social media, and personalize marketing efforts.
4. **Financial Management**: AI-powered tools help track expenses, forecast financial outcomes, budget, and manage cash flow.

5 Market Research: AI can be used to analyse trends and give insights into customer preferences, as well as competitor analysis.

6 **Customer Relationship Management**: AI-driven chatbots and virtual assistants enhance customer interaction and generate quicker responses.

7. **Skill Development**: The online AI-based learning platforms offer skill development opportunities to women to acquire technical, managerial, and entrepreneurial skills.
8. **Global Markets**: Digital platforms and AI tools facilitate women entrepreneurs reaching out to global customers and business networks.
9. **Innovation and Product Development**: AI can aid in developing innovative products, services, and technology-based business models.
10. **Flexible Working Opportunities**: AI-powered digital tools allow women to conduct their businesses remotely and practice flexible working.

1.4 Objectives of the Study

1 To explore the impact of Artificial Intelligence on the growth of Women entrepreneur in IT Sector.
2. To understand the emerging entrepreneurial opportunities due to the AI based technologies for women.
3. Analyze the key issues encountered by women entrepreneurs in adopting Artificial Intelligence.
4. To explore how AI can drive business innovation, productivity and decision making.
5. To analyse how women business enterprises in IT sector have been supported by the government and institutional initiatives.

II. REVIEW OF LITERATURE

1. Gandhali Divekar and Pandit Mali (2025)

Understanding Micro-Scale Urban Women Entrepreneurs' Awareness and Use of Generative AI was the subject of the research by Gandhali Divekar, Pandit Mali (2025). The study highlighted the ways in which Generative AI supports business performance and innovation, and enables businesses to overcome digital skill gaps and technological barriers to make better decisions.

2. Swaleha M. Algur and Mustaq Mulla (2025)

Algur Swaleha M. and Mulla Mustaq (2025) investigated the subject "AI-Driven Digitalization as a Catalyst for Women Entrepreneurship." The study emphasized the importance of AI-powered marketing, digital payment, and automation for enhancing the efficiency and growth of women entrepreneurs.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 6, Issue 1, August 2026 Impact Factor: 8.2

3. Leena Sharad Shimpi, Saksham Kumar Srivastava, Raman Srivastava, Aishwarya Awasthi and Vanshita Mishra (2024)

Leena Sharad Shimpi, Saksham Kumar Srivastava, Raman Srivastava, Aishwarya Awasthi and Vanshita Mishra presented: "AI Driven Innovative Business Models: Study of Women-Owned Micro-Enterprises in India". The study provided an understanding of how AI adoption can help businesses innovate, be more efficient and help entrepreneurs grow.

4. Swati Singh, Swati Alok and Sudatta Banerjee (2023)

Swati Singh, Swati Alok and Sudatta Banerjee conducted a study on "Qualitative Exploration of Enabler, Purpose, and Benefits of Digitalisation in the Informal Sector." The study highlighted the need for digitalisation to enhance business activities and boost the capacity of women entrepreneurs.

5. Anindya Jayanta Mishra and Elisa Mohanty (2022

In the study "The Digitally Mediated Lives of Women MSME Entrepreneurs in India," Anindya Jayanta Mishra and Elisa Mohanty (2022) analyzed the digital mediation of the lives of women MSME entrepreneurs. The study revealed disparity in access to digital technology and use of it, and stressed on digital literacy and technological awareness.

III. RESEARCH METHODOLOGY

3.1 Research Design

The study uses a descriptive and analytical research approach. Descriptive approach explains the current position of Women entrepreneurship in IT sector and the growing role of Artificial Intelligence in business activities. The analytical approach is to analyze the opportunities and challenges of adopting AI. The study also examines the impact of AI on business efficiency, innovation, productivity and decision-making. Secondary data is gathered from applicable academic publications, research studies, governmental documents and institutional reports. Findings are presented in tabular form, and analyzed in terms of frequencies and percentages.

3.2 Sample Size

Fifty secondary sources are used as a sample size in the study. These sources include:

- 25 research papers, journal articles.
- 10 reports from government and institutions.
- 10 reports related to AI and the IT industry.
- 5 books and other appropriate texts.

The sources are chosen intentionally based on their relevance to the field of Artificial Intelligence, Women entrepreneurship, Digital transformation and IT sector. Favoritism will be given to publications from 2016-2026.

3.3 Data Collection Method

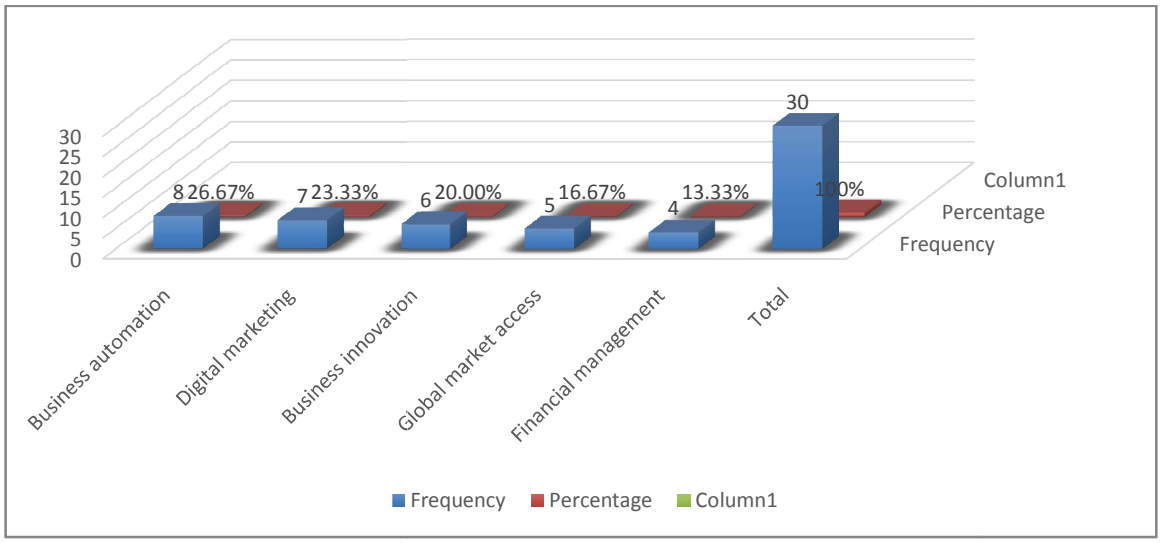
The data used in the study is secondary data. The following sources are used when collecting information:
Research papers and academic journals.
2. Government reports and policy documents.
3. Reports of women entrepreneurship development institutions.
4. Publications related to Artificial Intelligence and the IT industry.
5. Reports published by international organizations.
6. Books, research articles and academic publications from the internet that are relevant.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 1, August 2026
Impact Factor: 8.2

IV. DATA ANALYSIS

Table 1: Emerging Opportunities of Artificial Intelligence for Women Entrepreneurs

Opportunities	Frequency	Percentage
Business automation	8	26.67%
Digital marketing	7	23.33%
Business innovation	6	20.00%
Global market access	5	16.67%
Financial management	4	13.33%
Total	30	100%

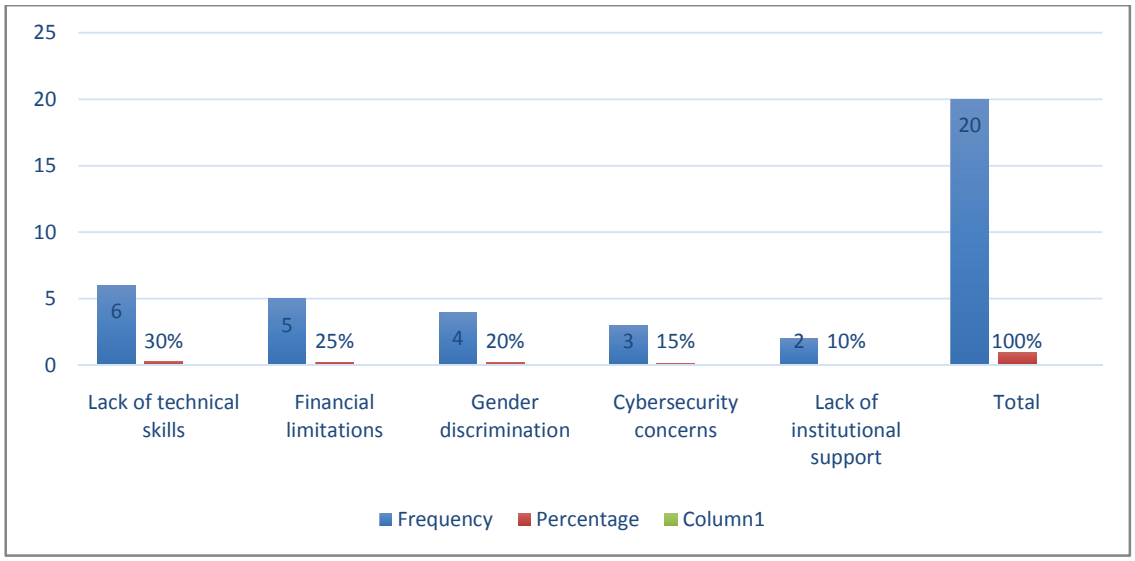


Interpretation: The table shows that there are the highest opportunities in business automation with 26.67% share. Business innovation is the second most popular option at 20%, with digital marketing coming in at 23.33%. The financial management and global market access are 13.33% and 16.67%, respectively. This indicates how AI can assist women entrepreneurs in optimizing business activities, marketing efforts, and innovations.

Table 2: Major Challenges Faced by Women Entrepreneurs in AI Adoption

Challenges	Frequency	Percentage
Lack of technical skills	6	30%
Financial limitations	5	25%
Gender discrimination	4	20%
Cybersecurity concerns	3	15%
Lack of institutional support	2	10%
Total	20	100%

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 1, August 2026
Impact Factor: 8.2



Interpretation: As revealed by the table, lack of technical skills become the main identified challenge which contributed 30%. 25% are due to financial constraints and 20% due to gender discrimination. Lack of cybersecurity concerns is 15% and lack of institutional support is 10%. The results show that technological training, financial support, and institutional support play vital roles in promoting the implementation of AI technologies by women.

V. DISCUSSION

The study has identified the emerging significance of Artificial Intelligence in the field of women entrepreneurship in IT sector. With the advent of AI technologies, women have new opportunities to start tech businesses, boost the efficiency of their businesses, and compete in the market. AI can help in several strategic areas of business automation, digital marketing, financial management and data-driven decision making. These technologies also help women entrepreneurs to manage their business activities well and increase their customer base.

Adopting Artificial Intelligence, however, comes with a host of problems. There are technical, financial, gender equality, and cybersecurity concerns that can hinder the effective use of AI-based technologies. Women Small Business Owners also may encounter challenges related to access to high-tech technological systems and professional training.

The discussion suggests that technology is not enough for a sustainable entrepreneurial development. Appropriate digital skills, financial resources, mentorship and institutional support are needed for women to effectively leverage AI. The government can play its part through training and entrepreneurship development programs, educational institutions and private technology bodies can play its part by providing training and entrepreneurship development opportunities.Overall, Artificial Intelligence can have a significant impact on enhancing the role of women in the IT sector. Its advantages are, however, linked to the inclusive technological development, equal opportunities, and ongoing skill development. Women can leverage technological opportunities into sustainable business development through a supportive environment.

VI. SUGGESTIONS

1**. AI Skill Development**: Special training programmes need to be arranged to increase women's knowledge about Artificial Intelligence and digital technologies.

2**. Financial Assistance**: Banks and Financial Institutions should offer loans and funds for women entrepreneurs with IT start-ups that are easily accessible.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 6, Issue 1, August 2026 Impact Factor: 8.2

3. **Government Support**: Government support should be scaled up on existing women entrepreneurship and digital development programmes.
4. **Technical Training**: Educational institutions should include courses on AI and technology based entrepreneurship.
5**. Mentorship Programmes**: Experienced entrepreneurs and IT professionals should mentor women in starting and running IT based businesses.

VII. CONCLUSION

Artificial Intelligence is now becoming an important tool to revolutionize women entrepreneur in Information Technology sector. The study shows that women have many opportunities to create innovative businesses, increase their operational efficiency, boost productivity, and tap into broader markets through AI-based technologies. AI-driven marketing apps, data analytics, automation, and machine learning can assist women business owners with business planning, customer management, financial activities, and decision making .The study also points out the various barriers that still exist in the way of women entrepreneurs such as technical shortcomings; financial difficulties; gender discrimination; cybersecurity threats; lack of institutional support etc. These barriers can become a hindrance to their using more advanced technologies and to being competitive in the IT industry. Therefore, it is crucial to create an entrepreneurial ecosystem that is inclusive and gives women the same access to technology, capital, education and professional opportunities. It is necessary to include efforts from various government institutions, educational institutions, financial institutions, and private business to raise AI awareness and foster entrepreneurship development. To sum up, the implementation of AI technologies promises to be a promising tool for women's economic empowerment and entrepreneurship development. Women entrepreneurs, with proper training, financial support, technological infrastructure and institutional support, can play a pivotal role in innovation, job creation and sustainable development of India's IT industry.

REFERENCES

1. Algur, S. M., & Mulla, M. (2025). AI-driven digitalization as a catalyst for women entrepreneurship. International Journal of Research and Innovation in Applied Science. https://doi.org/10.51584/IJRIAS.2025.100700032
2. Chatterjee, S., Dutta Gupta, S., & Upadhyay, P. (2020). Technology adoption and entrepreneurial orientation for rural women: Evidence from India. Technological Forecasting and Social Change, 160, Article 120236. https://doi.org/10.1016/j.techfore.2020.120236
3. Divekar, G., & Mali, P. (2025). Understanding micro-scale urban women entrepreneurs' awareness and use of generative AI: Implications for business performance, innovation, and growth. International Journal of Latest Technology in Engineering, Management & Applied Science, 14(8), 160–163. https://doi.org/10.51583/IJLTEMAS.2025.1408000020
4. Dutta, S., & Shivani, S. (2023). Acceptance and use of e-commerce technology among female entrepreneurs of micro and small businesses in India: Analysis of determinants. International Journal of Business Innovation and Research, 31(3), 356–377. https://doi.org/10.1504/IJBIR.2023.132898
5. Goswami, A., & Dutta, S. (2016). E-commerce adoption by women entrepreneurs in India: An application of the UTAUT model. Business and Economic Research, 6(2). https://doi.org/10.5296/ber.v6i2.10560
6. Ilavarasan, P. V. (2019). Present and future of the use and impact of information and communication technology in informal microenterprises: Insights from India. The Electronic Journal of Information Systems in Developing Countries, 85(3), Article e12091. https://doi.org/10.1002/isd2.12091
7. Jain, R., & Chatterjee, T. (2024). Information and communication technology and female employment in India. Information Economics and Policy, 69, Article 101116. https://doi.org/10.1016/j.infoecopol.2024.101116
8. Kaur, S., Mahindru, R., Bagchi, S., Srinivasan, R., Sahoo, S. R., Devi, D., & Kaikini, R. R. (2023). Technology adoption by Indian women entrepreneurs: An enabler or differentiator? Academy of Marketing Studies Journal, 27(6), 1–7.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 6, Issue 1, August 2026 Impact Factor: 8.2

9. Mehta, M., & Sinha, R. (2022). Women entrepreneurs and information communication technology: The journey from intention to usage. Journal of Entrepreneurship and Innovation in Emerging Economies, 8(2), 228–243. https://doi.org/10.1177/23939575221089142
10. Mishra, A. J., & Mohanty, E. (2022). The digitally mediated lives of women MSME entrepreneurs in India: Navigating the access-use conundrum. International Social Science Journal, 72(246), 1017–1032. https://doi.org/10.1111/issj.12379
11. Maharana, N., Panigrahi, A. K., Rath, G., Mishra, A. K., & Chaudhury, S. K. (2026). From survival to digital empowerment: Longitudinal narratives of women entrepreneurs in postpandemic India. Journal of the International Council for Small Business. https://doi.org/10.1080/26437015.2026.2643924
12. Rajeev, M., Nagendran, P., & Tripathi, S. (2026). Agency, technology, and women's entrepreneurship: A policy evaluation. Journal of Policy Modeling. https://doi.org/10.1016/j.jpolmod.2026.107098
13. Shimpi, L. S., Srivastava, S. K., Srivastava, R., Awasthi, A., & Mishra, V. (2024). AI driven innovative business models: Study of women-owned micro-enterprises in India. ShodhKosh: Journal of Visual and Performing Arts, 5(6), 3127–3135. https://doi.org/10.29121/shodhkosh.v5.i6.2024.6158
14. Singh, R., & Tiwari, B. (2026). Beyond the glass ceiling: A qualitative study of women entrepreneurs' technology challenges in Indian MSMEs. Journal of Management Development. https://doi.org/10.1108/JMD-07-2025-0394
15. Singh, S., Alok, S., & Banerjee, S. (2023). Qualitative exploration of enabler, purpose, and benefits of digitalisation in the informal sector: Understanding the role of bricolage among women entrepreneurs. Journal of Entrepreneurship, 32(3), 211–226. https://doi.org/10.1177/09708464231167954