Role of AI in Driving the Growth of Msmes in India

Dr. NAGALAXMI B

Assistant Professor of Commerce, Dr. BRR GDC (A), Jadcherla

Abstract—**Micro, Small and Medium Enterprises (MSMEs) are the backbone of the India's economy, contributing significantly to employment generation, industrial output and exports. However, despite their potential, MSMEs face persistent challenges such as limited access to finance, inadequate infrastructure, inefficient supply chains and restricted market reach. Artificial Intelligence presents a significant opportunity for growth and competitiveness among MSMEs in India. In recent years, Artificial Intelligence (AI) has emerged as transformative tool to address these bottlenecks and drive sustainable growth in the MSME sector. By adopting AI-powered solutions, MSMEs can streamline operations, improve decision making and it also helps to enhance the customer experiences. In this era of technology undoubtedly AI plays a significant role in driving the growth of MSMEs in India. In this context, an attempt has made to explore the Role of Artificial Intelligence in enhancing the competitiveness, productivity, and resilience of MSMEs in India. This paper addresses the challenges of MSMEs in India and it examines how AI-powered solutions can empower MSMEs to optimize operations, reduce costs and expand market opportunities. India can unlock the transformative power of AI for its MSMEs, paving the way for a more innovative and resilient economy.**

Index Terms—**Artificial Intelligence, MSMEs and Sustainable Development**

I. INTRODUCTION

Indian economy is one of the fastest growing economies of the world. Micro, Small and Medium Enterprises (MSMEs) are considered as the backbone to our Indian Economy. They contribute 30% of India's GDP; account for 45% of India's exports (Ministry of MSME, 2024). MSMEs contribute significantly to inclusive industrial development of the country. Despite of their significance, MSMEs in India face few challenges like limited access to finance, lack of infrastructural facilities, lack of skilled workforce and low levels of technological adoption and usage. Technological and digital adoption may strengthen the performance of MSMEs. Artificial Intelligence (AI) emerged as a transformative tool in present era. Globally, adoption of AI helps to enhance productivity, reduction of production costs and foster innovation in the field of Entrepreneurship. It may lead to unlock new avenues of competitiveness and sustainability. With the adoption of AI the operational efficiency of MSMEs may be enhanced up to 20%, operational costs may reduce by 10-15% and customer retention will be improve up to 20-25% (PwC, 2020; Nasscom, 2023) Though adoption of AI provides benefits in the field of MSMEs, yet the adoption of AI in MSMEs still remained limited. Digital Marketing, CRM and financial automation has adopted AI based tools. Currently only 25-30% of MSMEs are currently use AI based tools. Various challenges faced by MSMEs can be addressed by automating processes, improving supply chain management, enhancing customer engagement and enabling data-driven decision making. MSMEs in India are found in small scale. Due to the high implementation cost, lack of skilled manpower and infrastructure facilities in rural areas, AI adoption is unreachable grapes to MSMEs in India. With a great support from Government of India schemes to improve digitally and technologically MSMEs are overcoming with these challenges. With proper implementation, AI could enable MSMEs to become globally competitive and drive inclusive growth in India's digital economy.

II. RESEARCH METHODOLOGY

Statement of the Problem:
MSMEs play a significant role in economic development of our country. This sector contributes significantly to foster entrepreneurship and to generate employment opportunities at large at comparatively lower capital cost, next only to the

agriculture sector. As such Indian economy is known agriculture-based economy, MSMEs at rural areas contribute significant industrialization with least cost of investment as a catalyst of employment generator. Covid-19 pandemic situations have boosted up rapid growth of technology and boosted up the digital transformation among various sectors. Advent of Artificial Intelligence has created opportunities and challenges as well in MSMEs in Indian context. Although AI has significant potential to transform MSMEs, adoption remains limited. Due to major challenges like financial constraints, lack of skilled manpower and inadequate digital infrastructure facilities, MSMEs are often lagging behind to adopt AI as compared with large scale corporations. Adoption of AI will act as a growth engine for MSMEs. The problem lies in how MSMEs in India can effectively integrate AI into their business.

Research Gap:
Micro, Small and Medium Enterprises are backbone of Indian economic development. Most of the researchers in India focused to elaborate studies related to MSMEs. Few studies focus at Adoption of AI on large corporations and global enterprises. Limited emphasis has found to do research in the fields of AI adoption in MSMEs in Indian context. Challenges of rural and small-town MSMEs in accessing AI remains insufficiently studied. This paper tries to addresses these gaps based on secondary data from reports and policy documents, and academic literature to highlight AI's potential and challenges for MSMEs in India.

Objectives of the Study:
1.   To identify the Role of AI in driving the growth of MSMS in India
2.   To explore the Challenges in adaption of AI in MSMEs
3.   To evaluate the role of Government initiatives in facilitate AI integration to MSMEs

Methodology of the Study:
The present study aims to highlight the role of Artificial Intelligence in driving the growth of MSMEs in India. AI could enable MSMEs to become globally competitive and drive inclusive growth in India's digital economy. The study is a conceptual paper. The study is based on secondary data sources.

Most of the study sources are being collected from research articles published in various Journals, Google scholar and published Government reports. This study has mainly collected information from Annual report 2024-25, Ministry of Micro, Small and Medium Enterprises (MSMEs Annual Report: 2024-25), NITI Aayog, World Bank and ILO report, Nasscom and CII reports.

III.   ROLE OF AI IN DRIVING THE GROWTH OF MSMES IN INDIA

MSME sector acts as one of the major pillars of Indian economy contributing around 30% of India's Gross Domestic Product, over 45% of India's exports. MSMEs contribute significantly to the growth of Indian economy by creating employment opportunities even in rural areas leading towards balanced regional development. MSMEs play crucial role in fostering entrepreneurship from the gross root levels and employment opportunities at affordable lower capital cost following the primary sector in India. As the generation is based on technology adoption of AI in MSMEs will enhance the growth of entrepreneurship in Indian context. Let us discuss in detail the role of AI in driving the growth of MSMEs in India.

1.   Enhancing the operational efficiency and productivity:
Most of the MSMEs in India operate using old technologies. Adoption of AI technologies and updated production and machinery process with automation will definitely enhance the operational efficiency resulting increase in productivity. Repetitive and labour-intensive tasks of MSMEs can be streamlined by implementation of automation processes such as inventory management, customer query handling and invoice processing techniques.

2.   Reduction of Operational cost:
Forecasting techniques will help in estimation of demand and supply and other influencing factor in competitive business world. AI powered predictive tools facilitates demand forecasting, improving quality control and optimizing supply chains in the market. Usage of AI based predictive tools enterprises can enhance the productivity and also reduce the operational costs. Maintaining a stable

cost control system is very much essential for MSMEs as such they operate with limited resources. AI implementation has the potential to unlock $ 200-300 billion in cost savings in the MSME ecosystem. (India AI- a MeitY initiative, August, 2025)

3.   Reduce the regional imbalances:
MSMEs also play significant role in reducing the regional imbalances and enhance to promote regional development.   MSMEs are key contributor to establish enterprises in rural and semi-urban areas particularly in industries like handicrafts, food processing units and light manufacturing units. By adding value to agricultural produce and creating non-farm income opportunities MSMEs support rural economies. They appoint both skilled and semi-skilled labour, which reduces the inequalities in income level and regional disparities and imbalance in the country.

4.   Improving Market Reach and Customer Engagement:
MSMEs will be established with a minimum capital even in remote rural areas. Adoption of AI techniques will help to expand the scope of operations and to improve the market reach of MSMEs. The forecasting techniques based on AI will improve and maintain product quality as well customer engagement for a long period of time. With proper implementation of AI-powered tools for marketing automation, personalized content creation and customer segmentation enable MSMEs to reach wider and targeted audiences at lower costs. 46% emphasize its use in customer engagement and about 48% of MSMEs recognize AI's potential in content creation and marketing. These tools will help enterprises to expand their scope beyond local markets and facilitates to improve revenue generation. (Facebook)

5.   Financial Inclusion:
MSMEs sector in India depends mostly on credit funds for capital needs. Most of the MSME entrepreneurs face difficulty to raise loans and credit from formal financial inter-mediatory and lenders. They rely up on the informal lenders and creditors. But they charge very high rate of interests like 10% to 15% etc. Adoption of AI driven tools in financial inclusion helps in data capture, documentation and

credit assessment model preparation. AI powered credit assessment models can help to bridge the credit gap and enable formal credit access for several MSMEs, thus unlocking $130-170 billion in economic value (assuming an incremental capital output ration (ICOR) of 2 for the MSME sector). ((India AI- a MeitY initiative, August, 2025).
Alternative data sources such as GST records, digital transaction histories and online business behavior can be analyzed by AI-driven credit evaluation models. These models offer a more comprehensive view of credit worthiness. This helps address the credit gap estimated at $530 billion, unlocking access to finance for enterprises that were previously underserved. (psa.gov.in)

To summarize the role of AI in driving the growth of MSMEs in India are as follows:

AI's ability to drive business growth	94% of MSMEs acknowledge
AI's potential to improve overall productivity	87% of MSMEs showed confidence
Accessible and affordable AI Technologies	91% of MSMEs advocate
The necessity for AI training programs	72% of MSMEs emphasizes
Tailored use cases demonstrating AI's benefits across specific industries	45% of MSMEs highlight the need for

(Source: https://about.fb.com/news/2024/06/new-insights-to-help-indias-msmes-use-ai-to drive-growth/?utmsource=chatgpt.com)

IV.   CHALLENGES FACED BY MSMES IN ADOPTION OF AI

Adoption of AI tools by MSMEs will transform the process of production and facilitates smooth organization of entire production process in more effective way. Despite of benefits with adaption of AI in MSMEs, still they face numerous challenges while adoption of AI in MSMEs. The challenges faced by MSMEs in adoption of AI are as below:

• Cost and Resource Constraints:
Many MSMEs in India consider AI solutions as costly and not affordable. High upfront costs for

software, infrastructure and skilled specialists pose financial barriers. Even though adoption of AI is cloud-based and subscription models based, budgetary limitations continue to discourage widespread adoption of AI tools in MSMEs. (SME Digital World)

- Skill Gap and Awareness:

Many MSMEs lack internal expertise and are unaware of how to tailor AI tools to their business needs. Most of the MSMEs face shortage of trained professionals who are enough capable to implement and maintain AI Systems. (ConnectGlobal)

- Digital Infrastructure and Integration Issues:

MSMEs located in rural and remote areas too. Basic digital infrastructure like reliable internet access and data systems is still lacking in several locations in India. Much difficult to reach and implement AI solutions with existing business practices of MSMEs in India. It requires much careful planning and investment strategies. (SME Digital World)

V. GOVERNMENT INITIATIVES TO MSMES IN INDIA:

MSMEs in India basically concentrate at local markets. It expands up to National level. The scope of operations could be enhanced up to international level and compete with enterprises in global market. AI powered tools may enhance such capabilities to Indian MSMEs. Due to various challenges AI adoption by MSMEs are not much successful. Government support and initiatives will encourage MSMEs in India to enter and sustain in global competitive world. In recent era, the Indian Government and industry bodies have introduced multiple initiatives to promote AI adoption among MSMEs, which are as follows:

1. India AI Mission and Policy Framework:

The India AI Mission is approved by the Government of India. It is designed to serve as the central Programme to democratize access to AI resources and technology across sectors. It also promotes:

- AI research, open data access and innovation through AI datasets and compute infrastructure.

- Establish Centers of Excellence focused on sector-specific AI solutions
- Facilitating Public-private collaborations and skill development to enhance AI readiness (Principal Scientific Adviser)

2. Digital and AI Skill Development across MSMEs:

The Government has come forward with large-scale initiatives that indirectly benefit MSMEs by building local talent:

- AI training for Common Service Centre (CSC) entrepreneurs and rural digital workforce.
- To provide foundational AI education and to create a pipeline of AI-ready professionals Government has launched programmes such as "YUVA AI for ALL" (The Times of India).

3. Technology adoption Incentives and Smart Tools:

Several MSME schemes support digital and smart technology adoption, which supports AI integration:

- Digital MSME initiative and Technology Upgradation Funds co-financing digital platforms
- Grants and subsidies for smart manufacturing, automation and IoT adoption (machinatoday.in)

4. Policy recommendations for AI-Ready MSME Growth:

- Proposals include tax rebates on certified AI solution, AI – linked loans via financial institutions (SIDBI and Mudra) and subsidized access to GPUs and cloud services
- Sector-specific AI toolkits tailored to industries like textiles and food processing units. (Principal Scientific Adviser)

5. MSME-AI Fast Track Grants:

To accelerate AI uptake among MSMEs, MSME-AI Fast Tract Grants under the India AI Mission Framework has launched by the Government. It has sanctioned ₹2,000 crore budget for this aspect.

- Grant support (up to ₹ 25 lakh per MSME) for AI integration, workforce upskilling and technology deployment purpose.
- Priority access to AI compute cloud resources for enterprises-based regions.

- AI mentorship and export-readiness bootcamps helping small firms leverage AI-driven market intelligence. (The Times of India)

VI. SUMMARY, CONCLUSION AND FINDINGS:

Micro, Small, and Medium Enterprises (MSMEs) are considered the strongest pillars of the Indian economy. MSMEs play a significant role in Indian economy. MSMEs span across manufacturing, trade, and services, making them a crucial driver of inclusive growth. It contributes employment opportunities and fosters entrepreneurial concerns directing towards infrastructural facilities and all available resources in more efficient manner. Artificial Intelligence (AI) has emerged as a transformative tool that can address these challenges by automating processes, enhancing customer engagement, improving supply chain management, and enabling data-driven decision-making. Adoption of AI powered tools enhance the productivity, data driven decision making, expanding access to financial resourc3s and improving market reach. It faces challenges such of cost and resource constraints, skill gap and lack of basic digital infrastructural facilities. Through proper implementation of Government initiatives to MSMEs, adoption of AI significantly accelerates the growth journey of Indian MSMEs. AI driven tools enhance and facilitate MSMEs to compete on a global scale and contribute more robustly to India's economic development.

VII. BIBLIOGRAPHY AND REFERENCES

[1] Confederation of Indian Industry (CII). (2022). Unlocking the Potential of AI in MSMEs, CII Policy Paper

[2] Deloitte (2021) Artificial Intelligence and the future of Work in India: Deloitte Insights

[3] Government of India (2020) Digital India Programme. Ministry of Electronics and Information Technology Retrieved from [https://digitalindia.gov.in] (https://digitalindia.gov.in)

[4] International Labour Organization (ILO). (2021). Digitalization and the Future of MSMEs in Emerging Economies, Geneva: ILO

[5] MSMEs Annual Report 2024-25; Government of India, Annual Report 2024-25: Ministry of Micro, Small and Medium Enterprises, (https://msme.gov.in)

[6] Ministry of Micro, Small and Medium Enterprises, (2023). Annual Report 2022-23, Government of India. Retrieved from [https://msme.gov.in] (https://msme.gov.in)

[7] NITI aayog. (2018), National Strategy for Artificial Intelligence-AI for All. New Delhi

[8] Nasscom (2023) AI Adoption in India: Opportunities and Challenges. New Delhi

[9] PwC India (2020). AI: The next frontier for Indian MSMEs. PwC Research Report

[10] World Bank (2022), Transforming Business with Artificial Intelligence. Washington, DC:

[11] New Insights to Help India's MSMEs Use AI To Drive Growth

[12] Boston Consulting Group & FICCI. (2025). India's Triple AI Imperative: Succeeding with AI in India – Report on AI economic value potential and MSME adoption. Business Standard / Financial Express. Retrieved December 18, 2025, from India AI impact analysis showing AI adoption could unlock over $500 billion in value for Indian MSMEs. (Business Standard)

[13] Facebook / NASSCOM. (2024, June 30). New Insights to Help India's MSMEs Use AI to Drive Growth. About.fb.com – White paper summary of MSME AI awareness, adoption challenges, and opportunities in India. (Facebook)

[14] India SME Forum. (2025, December 2). The State of Digitalisation in Indian MSMEs – India SME Forum Digitalisation Report. Businesswise.in – Report highlighting MSME digital adoption including AI capacity building and chatbot integration. (businesswise.in)

[15] LinkedIn Research. (2025, November 13). 9 in 10 Indian SMBs Investing in or Planning AI Adoption: LinkedIn Study. Business Standard. – Analysis showing high intent among SMBs (approx. 95%) to invest in AI tools for growth. (Business Standard)

[16] CPA Australia & ASSOCHAM. (2025, May 6). Small Businesses Investing in AI Doubled in 2024: Survey. Financial Express. – Survey

showing investment in AI among small businesses doubling from 2023 to 2024. (The Financial Express)

[17] Economic Times. (2025, February 2). 23% Indian Business Implemented AI, 73% to Adopt Artificial Intelligence Tech in 2025. The Economic Times. – Data on current and projected AI adoption trends among Indian businesses. (The Economic Times)