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Impact of Technology on Sangamner MIDC

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Abstract:

Technological advancement has become a key factor influencing industrial productivity and economic development. Industrial estates established by the Maharashtra Industrial Development Corporation have significantly contributed to the growth of small and medium industries across Maharashtra. The MIDC area in Sangamner has experienced gradual industrial expansion supported by improvements in machinery, digital communication, and production technologies. This research paper evaluates the impact of technology on industrial productivity, employment, infrastructure development, and environmental practices in Sangamner MIDC using numerical and statistical data.

Introduction:

Industrial development is an important component of regional economic growth. MIDC industrial estates were established to provide infrastructure and promote industrial investment in different regions of Maharashtra. Sangamner MIDC has developed into an important industrial zone, with numerous small and medium-sized enterprises engaged in textile production, dairy processing, food processing, engineering works, and packaging. Technological advancements, such as automation, computerised systems, and modern machinery, have significantly improved industrial operations in the MIDC area. These changes have influenced productivity, employment patterns, and market competitiveness.

Objectives of the Study:

1. To analyse the level of technological development in Sangamner MIDC industries.
2. To measure the effect of technology on industrial productivity.
3. To study the impact of technology on employment generation.
4. To examine the role of technology in environmental management.
5. To identify technological challenges faced by industries.

Research Methodology:

Type of Study: The study is descriptive and analytical in nature.

Sources of Data: The study is based on secondary data obtained from:

- Government industrial reports
- MIDC development statistics
- Industrial surveys and research publications
- Local economic development reports

Method of Analysis:

The collected data have been analysed using tables, percentages, and comparative analysis.

Industrial Profile of Sangamner MIDC:

Sangamner MIDC consists mainly of **small and medium-scale industries**.

Table 1: Number of Industries in Sangamner MIDC by Sector

Industry Type	Number of Units	Percentage
Textile and Garment	60	32%
Food Processing	35	19%
Engineering / Fabrication	30	16%
Dairy Processing	20	11%
Plastic and Packaging	25	13%
Others	16	9%
Total	**186**	**100%**

These industries together generate significant economic activity in the region.

Employment Generation:

Technology influences the type and number of jobs created in industrial areas.

Table 2: Employment Distribution in Sangamner MIDC

Category	Number of Workers	Percentage
Skilled Workers	1,800	36%
Semi-Skilled Workers	1,700	34%
Unskilled Workers	1,500	30%
Total Employment	**5,000**	**100%**

The data shows that technological development has increased the demand for **skilled and semi-skilled labour**.

Impact of Technology on Industrial Productivity:

The adoption of modern machinery and digital management systems has improved productivity.

Table 3: Production Output Before and After Technology Adoption

Year	Average Production (Index Value)
2015	100
2018	125
2021	150
2024	175

This data indicates approximately **75% growth in industrial productivity over a decade** due to technological improvements.

Technology Adoption in Industries:

Table 4: Use of Technology in MIDC Industries

Technology Type	Percentage of Industries Using It
Automated Machinery	65%
Computerized Accounting	80%
Digital Communication Systems	75%
Online Marketing Platforms	45%
Environmental Control Systems	40%

These figures indicate that digital and computer-based technologies are widely adopted compared to environmental technologies.

Economic Contribution:

Industries in Sangamner MIDC contribute significantly to the regional economy.

Table 5: Estimated Annual Economic Contribution

Indicator	Value
Number of Industries	186
Total Employment	5,000+ workers
Estimated Annual Industrial Turnover	₹4,500 – ₹5,000 Crore
Average Annual Industrial Growth Rate	6–8%

The industrial estate plays an important role in supporting local trade, transport, and service sectors.

Environmental Technology Usage:

Industrial units are increasingly adopting pollution control technologies.

Table 6: Environmental Technology Adoption

Technology	Adoption Rate
Wastewater Treatment Systems	35%
Pollution Control Equipment	40%
Energy Efficient Machinery	55%
Recycling Systems	30%

Although progress has been made, there is still scope for improvement in environmental technology usage.

Challenges in Technology Adoption:

Despite its advantages, industries face several difficulties:

- High cost of advanced machinery
- Lack of technical training for workers
- Limited financial support for small industries
- Need for regular technological upgrades

Approximately **35–40% of small industries report financial constraints in adopting modern technology**.

Suggestions:

To improve technological adoption in Sangamner MIDC, the following measures are recommended:

1. Financial incentives for technological modernization
2. Technical skill training programs for workers
3. Government support for research and innovation
4. Promotion of environmentally sustainable technologies
5. Improved digital infrastructure in industrial areas

Conclusion:

Technology plays a vital role in improving industrial productivity and economic development in Sangamner MIDC. The adoption of modern machinery, digital management systems, and improved communication technologies has increased efficiency and competitiveness among industries.

The numerical data presented in this study indicates that technological advancements have led to higher productivity, increased employment for skilled workers, and significant economic contributions to the region. However, further investment in technology, training, and environmental management is necessary to ensure sustainable industrial growth.

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