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PROCEEDINGS OF THE INTERNATIONAL CONFERENCE

AI: THE CATALYST IN NURTURING SUSTAINABLE BUSINESS EXCELLENCE AND INNOVATION"

29-AUGUST-2025

ORGANIZED BY THE

PG AND RESEARCH DEPARTMENT OF COMMERCE

PROCEEDINGS OF THE

INTERNATIONAL CONFERENCE ON

AI: THE CATALYST IN NURTURING SUSTAINABLE BUSINESS EXCELLENCE AND INNOVATION

ON

29TH AUGUST 2025

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PG & Research Department of Commerce,

S.I.V.E.T. College, Gowrivakkam, Chennai 600 073.

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First Impression: 2025

Proceedings of the International Conference AI: THE CATALYST IN NURTURING SUSTAINABLE BUSINESS EXCELLENCE AND INNOVATION

ISBN: 978-93-92191-78-7

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Published by

S.I.V.E.T. PUBLICATIONS

S.I.V.E.T. College, Gowrivakkam, Chennai 600 073

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A STUDY ON AI FOR A BETTER PLANET: EASY WAYS TO BUILD A SUSTAINABLE BUSINESS

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ABSTRACT

Climate change, resource scarcity, and environmental concerns are pushing businesses to adopt more sustainable practices. This study explores how Artificial Intelligence (AI) can help businesses, especially small and medium-sized enterprises (SMEs), become more eco-friendly while remaining profitable. With tools like predictive analytics, machine learning, and automation, AI enables businesses to manage energy, reduce waste, and optimize resources efficiently. The research focuses on simple and practical AI applications that SMEs can adopt easily. Through secondary data and case studies, it highlights how businesses have successfully used AI to reduce environmental impact and improve decision-making. Despite its potential, challenges such as high costs, lack of technical knowledge, and ethical concerns remain key barriers. Still, the study shows that with proper support and awareness, AI can lead the way toward a more sustainable and efficient business future.

Keywords: Artificial Intelligence, Sustainable Business, Green Technology, Automation, SMEs, Eco-Friendly Innovation

INTRODUCTION

Sustainability has become a key concern for modern businesses due to growing environmental issues like climate change, pollution, and resource depletion. Today, customers, investors, and governments are urging companies to adopt eco-friendly practices. To meet these demands, many businesses are turning to technology—and Artificial Intelligence (AI) is emerging as a powerful solution. AI involves machines that can learn, analyze data, and make decisions. It can help businesses reduce energy usage, cut waste, and improve overall efficiency. From optimizing supply chains to tracking carbon emissions, AI offers practical tools for companies aiming to reduce their environmental footprint. This study focuses on simple and easy-to-use AI applications, especially for small and medium-sized enterprises (SMEs). It highlights real-world examples where AI has helped businesses achieve both sustainability and profitability. While there are barriers like cost

and lack of technical skills, the potential benefits are significant. The goal is to show how AI can support a greener future and help businesses become more responsible and efficient.

Objectives of the Study

1. **To know the profile of the respondent.**
2. **To find out how businesses use AI to support eco-friendly practices.**
3. **To understand the benefits and problems faced while using AI for sustainability.**
4. **To suggest simple AI ideas that help businesses become more environment-friendly.**

Statement of the Problem

1. Many businesses lack awareness about how AI can support environmental sustainability.
2. Small businesses often view AI as costly and complicated to implement.
3. There is a knowledge gap in practical, real-world AI applications for sustainability.

Scope of the Study

1. Focuses on AI applications that help reduce environmental impact in businesses.
2. Targets small and medium-sized enterprises (SMEs) looking for sustainable solutions.
3. Covers both benefits and challenges of AI implementation in eco-friendly practices.
4. Based on secondary data, case studies, and current AI trends in sustainability.

Need for the Study

1. To raise awareness of AI's potential in promoting sustainable business practices.
2. To provide actionable strategies for SMEs to adopt eco-friendly AI tools.
3. To bridge the gap between technological innovation and environmental responsibility.
4. To inspire businesses to use AI not just for profit, but for planet-friendly operations.

Limitations of the Study

1. The study include primary data on specific region .
2. It may not cover every AI application due to the fast-paced evolution of the technology.
3. The study focuses more on SMEs and may not fully represent larger corporations' use cases.
4. Cost and technical complexity are assumed as barriers, which may differ across regions.

RESEARCH METHODOLOGY

MEANING

Research methodology is a way to systematically solve the research problem .the research is the studying his research problem along with the logic behind them. It is necessary for the researcher to know not only the methods, techniques but also the methodology.

DATA COLLECTION

Data refers to information and facts. The task of data collection begins after the research problem has been defined and the research plan been decided.

There are two types of data collected

1. **Primary data**
2. **Secondary data**

SAMPLE SIZE: Sample size refers to the number of respondents drawn out for the purpose of study. The sample size selected for this study is 100. Based on these respondents' answers, the rest of the study is conducted.

STATISTICAL TOOLS: Statistical tools refer to the equipment that aid in conducting a research successfully. The statistical tools that aided in this research are charts like bar column, pie, cone, pyramid, line and cylinder

The other tools aided in this analysis are as follows;

- Percentage method
- Weighted average method

REVIEW OF LITERATURE

Vinuesa et al. (2020)

In their article *"The Role of Artificial Intelligence in Achieving the Sustainable Development Goals,"* published in *Nature Communications*, Vinuesa et al. explored how AI contributes to 17 UN Sustainable Development Goals (SDGs). They concluded that AI could positively impact over 70% of these goals, especially in areas like energy efficiency, climate action, and responsible consumption. However, they also warned about the risks if AI is not governed properly. This supports the idea that AI, when applied responsibly, can significantly promote sustainable practices in businesses.

McKinsey & Company (2022)

The McKinsey report titled *"How AI Can Help Fight Climate Change"* outlined the use of AI in tracking carbon emissions, optimizing logistics, and improving energy consumption. The report emphasized that AI-driven technologies could reduce greenhouse gas emissions by up to 10% globally. This literature reinforces the practical applicability of AI tools in reducing environmental footprints across industries.

Wamba et al. (2021)

In their research paper *"Big Data Analytics and Artificial Intelligence for Sustainable Development,"* Wamba and colleagues explored how businesses use data-driven AI strategies to improve sustainability. Their findings showed that AI improves decision-making, reduces waste, and enhances environmental monitoring systems. The study highlighted the potential of AI in predictive analytics and smart manufacturing, aligning with this paper's focus on easy and efficient business applications.

PwC Global AI Study (2019)

The PwC study titled *"AI to Drive GDP Gains and Sustainability"* projected that AI could contribute up to $15.7 trillion to the global economy by 2030. More importantly, it emphasized that AI applications in areas like smart agriculture, intelligent energy systems, and waste management could directly benefit sustainable development. This literature provides evidence of AI's economic and environmental advantages for businesses.

Bocken et al. (2016)

In the paper *"Product Design and Business Model Strategies for a Circular Economy,"* Bocken et al. discussed sustainable business model innovations. While not focused solely on AI, the study provided foundational insight into how digital tools, including AI, can be integrated into circular economy models. The relevance lies in demonstrating that businesses must re-think value creation by embedding sustainability into operations—a goal AI can help achieve.

FINDINGS

Objective 1: Personal Details of Respondents

- Majority of respondents (35%) were aged 26–35, showing strong participation from younger professionals.

- Business owners (45%) formed the largest group, suggesting the study captured insights from decision-makers.
- Service sector businesses (35%) dominated, followed by retail (30%) and manufacturing (25%).
- While 90% had heard about AI, only 30% were actively using it, showing a gap between awareness and implementation.

Objective 2: Use of AI in Business for Sustainability

- 40% of businesses do not currently use AI; those who do focus on energy saving (25%) and inventory management (20%).
- Only 15% use AI daily, while 40% never use it—indicating limited integration into operations.
- In 45% of cases, business owners themselves decide on AI adoption.
- 45% do not use any AI tools, while 25% use automation—showing potential for growth with guidance.

Objective 3: Benefits and Challenges of AI in Sustainability

- Energy saving (30%) is the most recognized benefit of AI, but 25% remain unsure.
- High cost (35%) and lack of technical knowledge (25%) are major barriers to adoption.
- Only 15% observed significant environmental benefits like reduced waste or pollution.
- 30% would definitely recommend AI, but 25% are still skeptical.

Objective 4: Suggestions for Simple AI Tools

- 40% of respondents are interested in all types of AI solutions (energy, waste, inventory).
- Most businesses prefer free/low-cost tools (35%) and training (25%) to get started.
- 55% are open to trying AI soon, showing readiness if barriers are removed.
- 65% believe AI can help build a better planet, indicating a strong positive attitude.

SUGGESTIONS

To promote the adoption of AI for sustainable business practices, it is essential to increase awareness through targeted educational initiatives such as workshops, webinars, and online training. These programs should focus on demystifying AI for small and medium businesses (SMEs), demonstrating how AI can lead to tangible benefits like energy savings, cost reductions, and improved operational efficiency. Additionally, government and private organizations should

offer subsidized or open-source AI tools tailored for eco-friendly use cases—such as smart energy monitoring, waste tracking, and predictive maintenance. Financial support in the form of grants, low-interest loans, or tax incentives can further encourage businesses to invest in AI-based green technologies. Moreover, hands-on training programs and mentorship should be made accessible, especially for businesses lacking technical expertise. Collaborations with AI startups and universities can help create community-level innovation hubs where SMEs can explore and test AI solutions affordably. Sharing success stories of small businesses that have successfully used AI for sustainability can serve as motivation and guidance for others. These case studies, if made available in the local language and business context, can bridge the gap between interest and action. Finally, public-private partnerships should focus on building scalable frameworks that allow businesses to integrate AI into their sustainability goals with minimal complexity and risk.

CONCLUSION

This study concludes that while most respondents are aware of AI and its potential benefits, the actual adoption of AI for sustainability in business is still limited. The major barriers include high cost, lack of technical skills, and uncertainty about where to start. Despite these challenges, a significant portion of businesses express a willingness to adopt AI if proper support and simple tools are made available. The data shows a promising future where AI can serve not only as a driver of profitability but also as a catalyst for environmental responsibility. With the growing urgency to combat climate change and adopt sustainable business models, Artificial Intelligence can play a transformative role in reshaping how businesses manage resources, reduce waste, and lower carbon emissions. If businesses, policymakers, and technology providers work together to address the existing barriers, AI can become a key enabler of a more sustainable and resilient economy. The study affirms that building a better planet through AI is not only possible but practical—provided that support systems and education are aligned with business needs.

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