

# AI-Driven Micro-Entrepreneurship: A Real-World Case on Sustaining Small Businesses in the Digital Age

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## **ABSTRACT:**

The growing influence of Artificial Intelligence (AI) is changing how small businesses operate, especially for micro-entrepreneurs who often work with limited resources. This case study explores how AI tools can support such entrepreneurs in improving efficiency, reaching customers, and sustaining their businesses over time. The study focuses on a small business owner who adopts AI-based solutions to overcome everyday operational challenges. It highlights both the benefits—such as improved productivity and better customer interaction—and the difficulties, including cost concerns and lack of technical knowledge. By presenting a practical situation, the case helps readers understand how digital tools can be applied in real business contexts. The findings suggest that while AI offers clear advantages, its successful use depends on awareness, training, and gradual implementation. This case is particularly useful for students and practitioners who want to understand the realities of technology adoption in small-scale entrepreneurship.

**KEYWORDS:** Artificial Intelligence, Micro-Entrepreneurship, Digital Transformation, Small Business Sustainability, Innovation, Technology Adoption, Entrepreneurial Development

## **JEL CODE:**

**L26** – Entrepreneurship

**O33** – Technological Change: Choices and Consequences; Diffusion Processes

**M13** – New Firms; Startups

**D83** – Search; Learning; Information and Knowledge; Communication; Belief

**O31** – Innovation and Invention: Processes and Incentives

**L86** – Information and Internet Services; Computer Software

## **Introduction**

Small businesses have always relied on creativity, persistence, and close customer relationships. However, in today's fast-moving digital environment, technology has become equally important. Artificial Intelligence (AI), once seen as something only large companies could afford, is now accessible to smaller businesses as well.

For micro-entrepreneurs, this presents both an opportunity and a challenge. On one hand, AI can simplify tasks, provide useful insights, and improve customer engagement. On the other hand, many entrepreneurs hesitate to adopt it due to lack of knowledge, cost concerns, or fear of complexity. This case study looks at how one entrepreneur navigates this situation and what others can learn from the experience.

### KEY ISSUE

The main issue explored in this case is:

**How can a small business owner effectively use AI tools to improve business performance while dealing with limited resources and technical knowledge?**

Related concerns include:

- Whether the investment in AI is worth the return
- How to manage the learning curve associated with new technology
- How to ensure that technology actually adds value rather than complicating operations

### CASE NARRATIVE/ SITUATION ANALYSIS

Ravi Kumar runs a small online handicrafts business. Like many micro-entrepreneurs, he started with limited capital and handled most tasks on his own—from managing orders to communicating with customers.

Over time, Ravi began to notice some recurring problems. He often struggled to keep track of inventory, missed customer queries due to delays in response, and found it difficult to predict demand. His sales were steady but not growing as expected.

After attending a local entrepreneurship workshop, Ravi was introduced to simple AI-based tools. Initially hesitant, he decided to experiment with a few affordable options. He started using a chatbot to respond to customer inquiries, a basic analytics tool to understand sales patterns, and AI-supported social media features to promote his products.

The results were gradual but noticeable. Customers received quicker responses, which improved their experience. Ravi was able to stock products more efficiently based on demand trends. His marketing efforts also became more targeted, helping him reach the right audience.

Within a few months, his business showed signs of improvement, including better sales consistency and reduced wastage. However, the journey was not smooth. Ravi faced difficulties in understanding how to use the tools effectively, and there were moments when he questioned whether the investment was worthwhile.

Despite these challenges, he continued learning and adapting. Over time, AI became a supportive tool rather than a complicated burden. Ravi's experience reflects the reality faced by many small business owners trying to adapt to a technology-driven market.

### QUESTIONS FOR DISCUSSION

1. What pushed Ravi to consider using AI in his business?
2. In what ways did AI tools make a practical difference in his daily operations?
3. What challenges did he encounter, and how could they have been handled better?
4. Do you think all small businesses should adopt AI, or should it depend on certain conditions?
5. What kind of support systems can help entrepreneurs like Ravi adopt new technologies more confidently?

**TEACHING AND LEARNING OBJECTIVES**

- Understand how technology is influencing small business operations
- Relate theoretical concepts of innovation to real-life situations
- Identify practical challenges in adopting new tools
- Think critically about cost versus benefit in decision-making
- Develop problem-solving skills in entrepreneurial contexts

**APPENDIX****Appendix Table 1: Changes Observed After AI Adoption**

Aspect	Before AI Use	After AI Use
Sales Growth	Moderate	Improved
Customer Response Time	Slow	Faster
Inventory Management	Inconsistent	Better Planned
Customer Satisfaction	Average	Higher

**Appendix Table 2: Key Challenges Faced**

Challenge	Level of Difficulty
Understanding Technology	High
Cost of Tools	Medium
Trust in Technology	Medium

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