



## THE IMPACT OF ARTIFICIAL INTELLIGENCE ON ENTREPRENEURIAL SUCCESS: A COMPARATIVE STUDY

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**Received:** August 28, 2024, **Accepted:** September 30, 2024, **Online Published:** October 10, 2024

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### ABSTRACT

This study investigates the role of Artificial Intelligence (AI) in shaping entrepreneurial success by comparing the performance of AI-powered startups with non-AI ventures. Through data analysis from industries such as e-commerce, healthcare, fintech, and manufacturing, the research highlights AI's contributions to business growth, innovation, and competitive edge. The findings reveal that AI implementation significantly improves business performance metrics like revenue and employee growth. However, the study also addresses potential challenges, including high costs and the displacement of traditional small businesses in an AI-driven economy. The research offers insights into the broader societal and economic effects of AI on entrepreneurship, emphasizing the evolving dynamics of digital technology in business operations.

**Keywords:** Artificial Intelligence, Entrepreneurship, Startups, Business Growth, Innovation, and Digital Technology

## Introduction

The swift evolution of Artificial Intelligence (AI) has created numerous opportunities for businesses, especially startups. This study explores the impact of AI adoption on entrepreneurial success by analyzing the benefits and challenges associated with incorporating AI into business operations. Despite the increasing prominence of both mechanical and cognitive automation, the intersection of entrepreneurship and AI has not been extensively researched (Liebregts et al., 2019; Obschonka & Audretsch, 2019; Townsend & Hunt, 2019). Much of the theoretical understanding of AI and automation processes has been driven by economists, focusing on employment, income, and policy implications from a macro-level perspective (Acemoglu & Restrepo, 2018; Agrawal, Gans, Goldfarb, et al., 2019a; Korinek & Stiglitz, 2017).

Significant progress has been made by scholars in the fields of marketing and the service sector in understanding how emerging technologies are reshaping traditional organizational practices (Huang & Rust, 2018; Syam & Sharma, 2018). However, research-oriented towards practitioners has been the most prolific, with strategic literature extensively discussing the excitement surrounding AI and its potential business applications (Davenport & Ronanki, 2018; Kolbjørnsrud et al., 2016; Ransbotham et al., 2017).

This paper aims to advance theoretical development in AI, particularly within the context of entrepreneurship. Our objective is to extend current theories of digital entrepreneurship (Nambisan, 2017; Nambisan & Baron, 2019) by presenting a conceptual framework that illustrates how AI influences the processes, strategies, and outcomes of new ventures. One acknowledges that AI and other digital technologies are unfolding as part of a broader trajectory of interconnected political and economic changes, rather than in isolation.

Adopting a comprehensive approach, the framework (Korinek & Stiglitz, 2017; Nambisan, 2017; Obschonka & Audretsch, 2019) synthesizes insights from entrepreneurship, economics, and digital technology to predict how various aspects of entrepreneurship may evolve in the future. Key areas for future research are identified to understand AI's impact on entrepreneurship, particularly in venture-level operations such as prospecting, creating, and exploiting opportunities. Additionally, the influence of AI on venture-level processes and outcomes, including rewards, is explored.

This paper makes several contributions to the growing field of AI and entrepreneurship. First, the concept of "liabilities of technological leverage" is introduced, highlighting the risks associated with scaling ventures due to the "opaque" nature of many machine learning and AI algorithms. These liabilities also pose challenges to organizational



structures and decision-making processes, as automation alters a significant number of roles and functions within new ventures. Secondly, the paper examines how entrepreneurial actors can harness AI to develop innovative business ideas, identifying an important area of research that investigates how differing approaches in machine learning can address knowledge gaps in the creation of new ventures.

Literature Review

This section reviews existing research on AI in entrepreneurship, including studies on AI’s impact on business processes, innovation, and competitive advantage. It also discusses the role of AI in various industries and how it has transformed traditional business models.

Methodology

Data Collection

The study collected data from 100 startups across five industries: e-commerce, healthcare, fintech, manufacturing, and retail. Surveys and interviews were conducted with entrepreneurs to gather insights on AI adoption, business performance, and challenges faced.

Data Analysis

The data were analyzed using statistical methods to compare the performance of AI-powered startups with non-AI startups. Key metrics analyzed include revenue growth, employee growth, profit margins, and success in securing funding.

Result

Impact of AI on Business Growth

Table 1: Business Growth Metrics Before and After AI Implementation

Table with 8 columns: Startup Name, Industry, Year of AI Adoption, Revenue Growth Before AI (%), Revenue Growth After AI (%), Employee Growth Before AI (%), Employee Growth After AI (%), Profit Margin Increase (%). Rows include Startup A (E-commerce, 2021), Startup B (Healthcare, 2020), and Startup C (Fintech, 2019).

The table shows that AI adoption leads to significant improvements in business metrics, particularly in revenue and employee growth.

**AI Adoption by Startups**

**Table 2: AI Adoption by Industry**

Industry	%of Startups Adopting AI	Most Common AI Applications
E-Commerce	60%	Customer service Chatbots, recommendation engines
Healthcare	45%	Diagnostic tools, patient data management
Manufacturing	55%	Predictive maintenance, supply chain optimization
Retail	50%	Inventory management. Customer behavior analysis

**Chart 1: Comparison of Key Metrics Between Family-Owned and Non-Family-Owned Businesses**

Metric	Family-Owned Businesses	Non-Family-Owned Businesses
Average Business Longevity (Years)	25	15
Revenue Growth Rate	8% annually	10% annually
Employee Retention Rate	85%	70%
Succession Planning Rate	70%	30%
Access to External Funding	40%	60%
Innovation Adoption Rate	55%	70%

**Success Metrics for AI-Powered Startups**

**Table 3: Success Metrics for AI-Powered Startups**

Success Metric	AI-Powered Startups (%)	Non-AI Startups (%)
Achieved Break-Even Point	85%	65%
Secured Series A Funding	75%	55%
Global Market Expansion	60%	40%



AI-powered startups outperform their non-AI counterparts in achieving success metrics, demonstrating the positive impact of AI on entrepreneurial success.

### **Discussion**

The results suggest that AI adoption significantly enhances startup performance, especially in industries that rely on data-driven decision-making. However, challenges such as high implementation costs and the need for skilled personnel can hinder AI adoption.

### **AI's Effects on New Ventures Procedures and Practices: An Overview**

From Briel et al. (2018), attention now shifts to the organizing framework, which views AI as a digital external enabler of new enterprise concepts. The analysis begins by examining how AI affects the factors that lead to the establishment of ventures, followed by an exploration of how the technology influences various firm-level operations, and finally, an investigation into the potential consequences for entrepreneurial outcomes.

### **Previous Events**

Will AI have an impact on people's decisions to become entrepreneurs, and if so, how? Vogel (2017) identifies triggers and idea creation as the initial phases of the venture formation process in his framework for comprehending its antecedents. The aforementioned activities are subject to the influence of both personal and external system-level factors, as noted by Mullen and Shepherd (2006). Consequently, the selective or widespread implementation of artificial intelligence (AI) can affect an individual's decision to launch a business as well as the kind of business they ultimately found.

### **On the outside**

Although it has long been acknowledged that outside factors affect entrepreneurs' capacity to launch and expand new businesses (Welter et al., 2019), more recent studies have provided a more accurate lens through which to view how venture ideas are enabled by temporal, spatial, technological, and regulatory changes (Davidsson et al., 2018). According to academics, there could be significant changes to the external environment as a result of artificial intelligence (AI). These changes could include the implementation of new economic and social policies, such as the Universal Basic Income (UBI), which aims to lessen the effects of automation and AI on households (Pulkka, 2017); adjustments to competitive dynamics (Agrawal et al., 2018; Ezrachi & Stucke, 2016); and more general changes to the way markets function (Furman & Seamans, 2019).

To counteract automation-related job losses, a broad implementation of UBI or another type of fiscal transfer would immediately provide a safety net for unemployed individuals to launch new businesses (D'Mello, 2019; Levine, 2019). This would

consequently alter the antecedents of venture creation, which are associated with creativity and taking risks (D'Mello, 2019; Eberhart et al., 2017). According to more idealistic predictions, the economic restructuring brought about by AI may also give rise to a new class of entrepreneurs who are intrinsically motivated rather than solely by the need to quickly scale their businesses before leaving (Choi & Kang, 2019; D'Mello, 2019).

This is counterbalanced, though, by the potential for AI-driven technological platforms to take center stage in economic life (Shapiro, 2019), which would mean that private companies would increasingly act as intermediaries for entrepreneurial opportunities, controlling the terms of trade and competition (Zhu & Liu, 2018). A long-term decrease in business dynamism has previously been connected to this increasing consolidation of "big tech" (Decker et al., 2016, 2017; Shapiro, 2019). If antitrust legislation fails to increase allocative efficiency and productivity within the economy, there could be a protracted period of stagnating entrepreneurial activity. This is because the same technology companies currently lead investment in developing AI technology, hold the majority of patents (Hartmann & Henkel, in press), and are in a strong position to maintain their market position (Decker et al., 2017).

### **Results of an Entrepreneurial**

After going over entrepreneurship goals, prospecting, organizational structure, sales, and scaling previously, it's critical to think about possible outcomes and the potential rewards that AI-enabled entrepreneurship may provide. Numerous academics have examined entrepreneurial rewards, identifying various components such as monetary rewards (Cagetti & De Nardi, 2006), non-financial benefits (Blanchflower, 2004), satisfaction (Binder & Coad, 2016), earnings (Åstebro & Chen, 2014), and wellbeing (Wiklund et al., 2019). Although compensating differentials like autonomy, independence, and flexibility have been emphasized as advantages of having one's own business, they are frequently oversimplified in their justifications (Carter, 2011). Seeking to comprehend the results that entrepreneurs attain via their endeavours is consistent with such characterisations, as it can reveal motivations and behaviours throughout the broader entrepreneurial process. The characteristics and function of these disparities might shift if AI-facilitated entrepreneurship gains traction.

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### **Artificial Intelligence and the New Business Ethics**

Policymakers are not the only ones who need to consider the possible negative effects of AI. With these new AI-driven businesses, entrepreneurs themselves will have to consider the costs they might be externalising on society. MacGuineas (2020: para. 5) and others (Odell, 2019) have explored how technology companies use “turbocharged self-improving algorithms” shaped by behavioural psychology insights to create a dependency, or addiction, to their products in order to compete in the “attention economy.” Their work vividly illustrates some of these issues. Thanks to “data network effects,” companies now have such a strong awareness of individual customers that they may use AI to manipulate behavior in ways that raise important concerns about the power dynamics between consumers and businesses (Gregory et al., in press). Tech corporations have moved from “predicting behaviour to engineering it,” as Morozov (2019) notes, and this calls for a modern ethical framework that recognises the explosive promise of emerging AI technologies as well as their potential for abuse.

Private matters are only indirectly connected to this discussion. Zuboff (2019) highlights the rise of a covert form of surveillance capitalism, where businesses leverage AI and other technologies to capitalize on the vast amount of data individuals generate daily. This has not only led to several corporate scandals involving the exploitation of personal data but has also resulted in significant financial gains for founders and venture capitalists who successfully extract value from these data assets (Isaak & Hanna, 2018). This success is partly due to lenient or insufficient regulations.

Entrepreneurs utilizing AI face profound ethical dilemmas, as the technology can be exploited for purposes of social control and oppression (Whittaker et al., 2018). Just because AI can perform certain actions does not mean it should be used indiscriminately. This tension between capability and ethical responsibility is an emerging area that scholars in entrepreneurship should explore further in the coming years.

A key goal of most entrepreneurial ventures is to craft a scalable business model that demonstrates market traction before expanding operations to capitalize on opportunities. This can be a complex process, requiring rapid iteration across multiple dimensions of organizational design to develop a structure capable of effectively serving the market (O’Reilly & Binns, 2019). Research indicates that many enterprises fail at this stage due to the novelty of their offerings and limited access to financial and social resources (DeSantola & Gulati, 2017).

An AI-enabled salesbot that can "clone" a top-performing salesperson illustrates the evolving relationship between AI and venture growth. This example shows how scaling costs can be significantly reduced—often to zero marginal cost—as tasks become detached from human labor. Moreover, as data volumes increase, deep learning algorithms can improve performance, leading to greater productivity through the use of more "bots" to engage with customers (Esteva et al., 2019).

In the broader context of Industry 4.0 technologies, it is conceivable that a new paradigm of scaling will emerge—one in which businesses expand rapidly without encountering the usual constraints faced by startups. For instance, a future Industry 4.0-native company might use an AI-blockchain hybrid platform to manage financial accounting, legal processes, and compliance tasks (Susskind & Susskind, 2015). It could manufacture physical products via smart manufacturing systems and use automated logistics for delivery (Kusiak, 2018). Customer service could be predominantly managed by conversational AI bots (Microsoft, 2018), and the few necessary hires could be selected using AI technologies that analyze candidates' body language and verbal cues during interviews, comparing them with predefined traits (Booth, 2019). Additionally, Microsoft (2018) suggests that tasks such as sales, marketing, and pricing could be dynamically automated or semi-automated, eliminating commission fees and reducing the cost of customer acquisition. Instead, resources could be directed toward data collection, maintenance, and analysis. These scenarios are not far-fetched, as these technologies are already in use, with industry leaders like Unilever (hiring), Amazon (logistics), and Tesla (manufacturing and logistics) integrating them to enhance competitive advantage.

### **Conclusion**

AI is a crucial tool for entrepreneurs, offering significant benefits in terms of business growth, innovation, and success. Startups that embrace AI are more likely to achieve critical milestones, such as securing funding and expanding globally. Future research should focus on long-term AI impacts and explore AI applications in emerging industries.

It is widely acknowledged that AI demonstrates the traits of a revolutionary general-purpose technology (Brynjolfsson & McAfee, 2014; Cockburn et al., 2018). This approach illustrates how AI significantly influences how entrepreneurs build, create, and scale their businesses, alongside other interconnected Industry 4.0 technologies such as blockchain, machine learning, and quantum computing. Technology may also determine quality of life and impact the decision to settle down.

The technology will even enable scholars studying entrepreneurship to create new theoretical understandings of social and economic phenomena (e.g., Lévesque et al., in





press; Tidhar & Eisenhardt, 2020). Because of the all-encompassing and exponential character of AI, academics should set up a research program that aims to both proactively shape these advancements and respond to them analytically.

## References

- Acemoglu, D., & Restrepo, P. (2018). Artificial Intelligence, Automation, and Work. *National Bureau of Economic Research*.
- Agrawal, A., Gans, J., & Goldfarb, A. (2017). How AI Will Change the Way We Make Decisions. *Harvard Business Review*.
- Agrawal, A., Gans, J., & Goldfarb, A. (2018). Prediction Machines: The Simple Economics Of Artificial Intelligence. *Harvard Business Review Press*.
- Agrawal, A., McHale, J., & Oettl, A. (2019). Artificial Intelligence, Scientific Discovery, and Commercial Innovation. Working Paper.
- Brown, M. (2021). Challenges in AI Adoption by Startups. *Harvard Business Review*, 89(2), 30–42.
- Johnson, L., & Chen, R. (2022). AI and Entrepreneurship: A Review of Current Applications. *International Journal of Technology and Business*, 9(4), 150–175.
- Krishnan, H. R. (2024). Agricultural Applications of Artificial Intelligence (AI). *Journal of Inventive and Scientific Research Studies, Special Issue*, 69-76.
- Mahalakshmi, C. M., & Selvi, V. K. (2024). Empowering Rural Entrepreneurship Through Digital Literacy in Surrounding Villages of Sivakasi. *Journal of Inventive and Scientific Research Studies, Special Issue*, 29-36.
- Smith, J. (2023). The Role of AI in Startup Success. *Journal of Business Innovation*, 12(3), 45–60.