



THE ODYSSEY OF STRATEGIC INVESTING IN ARTIFICIAL INTELLIGENCE (AI) STARTUPS

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Abstract:

This paper investigates the dynamics and challenges faced by strategic investors in the context of Artificial Intelligence (AI) startups. As the landscape of financial markets evolves, strategic investments in AI startups have gained considerable attention due to their potential for disruptive innovation and substantial returns. However, the unique characteristics of AI ventures pose distinctive challenges to investors, necessitating a comprehensive understanding of the underlying factors that shape the investment landscape. Drawing on literature review analysis, this research explores the strategic decision-making processes, investment strategies, and performance outcomes of strategic investors in the AI startup ecosystem. The study uncovers the key determinants that influence the success or failure of strategic investments in AI startups, including the evaluation of technological capabilities, market potential, business models, and strategic alignments. The findings provide valuable insights for both investors and entrepreneurs, offering guidance on effective strategies for navigating the complex landscape of AI investments. By shedding light on the odyssey of strategic investing in AI startups, this research contributes to the existing literature and informs stakeholders on maximizing the benefits and mitigating the risks associated with investments in this rapidly evolving domain.

Keywords:

corporate strategy, investments, startups, artificial intelligence.

1. INTRODUCTION

In the rapidly evolving landscape of modern technology, artificial intelligence (AI) stands as one of the most transformative forces, reshaping industries, and societies at an unprecedented pace. The ever-growing potential of AI to revolutionize businesses has led to a meteoric rise in AI startups, representing the vanguard of innovation in this domain. The entrepreneurial endeavors embarked upon by these AI startups, however, are far from a smooth and unerring journey. Rather, their odyssey of strategic investing is laden with challenges and opportunities that dictate their fate in the fiercely competitive market.

"The Odyssey of Strategic Investing in AI Startups" delves into the enthralling narrative of these pioneering ventures, shedding light on the intricacies of their journey, the risks they encounter, and the strategic decisions they make in pursuit of success. As the dawn of the fourth industrial revolution breaks, the allure of AI startups has garnered immense interest from investors, venture capitalists, and policymakers, alike. This research paper seeks to provide a comprehensive understanding of the dynamics that underpin the investment landscape in AI startups, exploring the factors that shape their strategic choices and eventually impact their growth and survival.

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The pivotal role of AI startups in shaping the technological trajectory of the world has captured the imagination of stakeholders across various sectors. Investors, eager to capitalize on the transformative potential of AI, are navigating through uncharted waters, seeking opportunities that yield substantial returns while mitigating inherent risks. As the AI startup ecosystem continues to mature, it becomes evident that merely riding the wave of innovation is inadequate for sustainable success. Discerning investors must adopt a strategic approach that aligns with the unique challenges and distinct characteristics of AI startups, acknowledging the intricate interplay between technology, market dynamics, and regulatory landscapes (Petković & Cao, 2021).

By delving into case studies and analyzing market trends, this research paper uncovers the diverse strategies employed by AI startups to secure funding, build partnerships, and expand their market presence. We examine the critical role of visionary leadership, the importance of nurturing innovation, and the art of identifying promising startups amidst a sea of competitors. Moreover, we explore the impact of evolving ethical considerations, data privacy concerns, and regulatory frameworks on the investment decisions surrounding AI startups, emphasizing the growing need for responsible investing in this transformative domain.

The journey of strategic investing in AI startups is akin to an epic voyage, fraught with perils and laden with unexplored opportunities. As we navigate the course of this research paper, we invite readers to embark on an intellectual odyssey that unravels the mysteries surrounding the world of AI startups. By comprehending the nuances of strategic investing in this domain, stakeholders can equip themselves with the knowledge needed to make informed decisions, navigating the turbulent seas of the AI startup landscape with astuteness and foresight (Petković & Del Real Ramirez, 2020). Together, we venture forth into uncharted territory, driven by the collective pursuit of unraveling the enigma of AI startup success in an ever-changing world.

2. EVALUATING NEW BUSINESS OPPORTUNITIES IN AI INDUSTRY

In today's rapidly advancing technological landscape, the AI industry has emerged as a hotbed of innovation and transformation, presenting entrepreneurs and businesses with unprecedented new opportunities. As AI continues to permeate various sectors, from healthcare and finance to manufacturing and retail, it has sparked a wave of excitement and curiosity, with the potential to reshape the way we live and work. The convergence of big data, powerful algorithms, and computing capabilities

has unlocked a realm of possibilities, paving the way for groundbreaking ventures that harness the untapped potential of AI.

Certain players have chosen to reinforce the momentum that AI has had in areas of considerable profit such as data analysis, hyper-automation of processes, supply chain optimization, among others. However, the AI opportunities that will really have an impact on society and will represent the business opportunities that will be on everyone's lips, is not based on the 4.0 industry created in the twentieth century, but in the 5.0 society belonging to the twenty-first century.

The speed with which technology has advanced in recent decades has not been the same as the speed with which humanity has been able to adapt and cope with all these novelties. As a result of this disparity of capabilities, humans have perceived two sides of technological dynamism. On one hand, daily life has become easier, connectivity and even treatments and disease prognoses have evolved in a way that could not have been conceived a few years ago. On the other side of the coin, there is an unanticipated scenario. Increasing emotional disorders, hoarding of energy and natural resources, as well as vulnerability in the privacy of each person, are just some of the circumstances that distress humanity.

It is from there, that the 5.0 society separates the vision focused on the industry with which the discoveries have been developed since the industrial revolution and shifts that interest to an understanding where the human being is the center of technological advancement and innovation (Pereira et al., 2020). On this change of spectrum, the business opportunities related to AI will be all those that seek to produce happiness, satisfaction, make people feel fulfilled and seek to improve the quality of life (Pereira et al., 2020).

The quest to strengthen aspects of the population's lifestyle will start in the health area where the main protagonists will be the mental health assistants - which will be the ones who can provide support and guidance to individuals struggling with stress, anxiety or depression — along with the emotional intelligence enhancers — AI tools can analyze language patterns and emotional cues in conversations to provide feedback on improving emotional intelligence. At the same time, to promote work-life balance, AI will begin to embrace niches of art and rehabilitation music where AI-generated art and music can be used in therapeutic settings to promote relaxation, creativity, and emotional expression.

It is correct to acknowledge a path has been traced throughout this paper on the niches suitable for exploiting AI and securing a position in the industry of the future. However, it is important to emphasize that the products resulting from these efforts will not have the same strength and impact in all regions - regardless of their level of development.



Actors interested in being part of the emerging business opportunities within the 5.0 society will have to consider the current reluctant position of various actors towards the free movement of AI.

It is well known that AI relies heavily on gigantic amounts of information — the product of big data — to feed its learning mechanisms and thus have a better performance and accuracy within the tasks assigned to it. This capability is hindered by the various regulations that are being applied around the world. The amount of information that big data can collect is being limited across the European Union and the United States through practices like pseudonymization. Since this technology seeks to collect vast amounts of information from any available and untargeted resource, the use of it under conditions with human-created biases, accessibility restrictions or masking of information would harm its output, affecting precision and accuracy (Zarsky, 2017).

Considering this type of delay in the maturity level of AI, the race to gain a competitive advantage in the business that is the responsibility of this type of technology will be divided into distinct categories of actors. On the one hand, those players who will focus their efforts on adapting innovations to a myriad of regulations will grow exponentially. On the other hand, there will be places where the limits of AI can be explored without any ties, such as China, where they are motivated to challenge the capabilities of innovative technologies. Finally, some actors will accelerate the next level of AI where with few inputs complex training can be generated with high accuracy and outstanding performance, approaching mimicry with the human brain.

3. FINANCING NEW AI VENTURES

As the world embraces the transformative potential of AI, it becomes evident that AI-powered ventures are leading the charge in technological innovation. However, funding such ventures presents unique challenges due to the substantial investments required for AI technology development and talent acquisition (Kelnar, 2019). In this comprehensive exploration of financing options for AI startups, we aim to shed light on the current AI startup financing landscape, examining both the most and least utilized approaches in the industry.

The growth of AI investment has witnessed an exponential rise in AI startups globally. According to the Artificial Intelligence Index Report (2019), the global private AI investment in 2019 surpassed an impressive \$70 billion. This included over \$37 billion in AI-related startup investments, \$34 billion in M&A transactions, \$5 billion in IPOs, and Minority Stake valued at approximately \$2 billion. Between 2014 and 2019 (until November 4th), a total of 15,798 investments were made in AI startups, with

an average investment of approximately \$8.6 million per venture. Over the years, global investment in AI companies surged from \$1.3 billion in 2010 to a staggering \$40.5 billion in 2018, displaying an impressive average annual growth rate of 48% (Brynjolfsson et al., 2019).

Notably, starting in 2015, AI startups have been able to raise more capital than traditional software companies, indicating the increasing attractiveness of the AI sector to investors (Brynjolfsson et al., 2019). These figures demonstrate the robust growth and significance of AI investment, underscoring its potential impact across industries.

Geographically, the United States continues to dominate the AI startup landscape, leading in the number of funded startups and consistently securing significant AI funding. On the other hand, the European start-up ecosystem is steadily maturing, with one in six European AI companies classified as 'growth' - stage companies with funding exceeding \$8 million (Brynjolfsson et al., 2019). This trend underscores the growing momentum and potential of the European AI market.

In the case of the AI startup financing options, it is like other new ventures, such as bank loans, government funding, venture capitalists, crowdfunding, and individual investors. However, our literature research indicates that due to the unique nature of AI startups, some traditional funding sources may not be as popular, while certain options are more prevalent than those typically seen in other software or hi-tech companies.

Venture capital and business angel financing have been widely acknowledged as crucial funding sources for young and innovative firms (Block et al., 2018). These financing avenues also play a significant role in fueling growth and innovation in AI startups, as highlighted by Kelnar (2019) who identifies them as the most popular types of investors in the AI industry. A compelling example of this phenomenon is observed in Generative AI, which, despite being a fraction of the total investments in AI, has experienced remarkable growth. Just in the first five months of 2023, generative AI secured an impressive \$12 billion in funding. This substantial growth is a result of the support from venture capital and other private external investors, as demonstrated by an average compound growth rate of 74 percent annually between 2017 and 2022 (Micheal et al., 2023).

Furthermore, various literature suggested that government investors show a greater inclination towards investing in AI startups compared to software startups (Vermeer, 2019). For instance, the work of Legendijk et al. (2018) highlights the Dutch government's prioritization of investing in AI companies. Particularly, the Dutch Government took an initiative-taking step in 2019 by introducing the Strategic Action Plan AI (SAPAI), which emphasizes investment in AI. As part of this forward-



thinking initiative, the government collaborated with sixty-five companies to explore AI opportunities (Vermeer, 2019). These efforts demonstrate the government's recognition of the significant role AI plays in driving innovation and economic growth. Moreover, government support for startups extends beyond financial investment. Initiatives such as creating tax exemptions for startups, providing interest-free loans, and implementing accelerator and incubator programs are part of the broader ecosystem-building approach (Kshetri, 2018). These measures not only ease the process of starting a new company but also foster a supportive environment for startups to thrive and innovate. By providing financial, regulatory, and ecosystem-building support, governments can significantly benefit many startups, including those in the AI domain.

On top of the significant investors for AI ventures mentioned earlier, there is another emerging option for funding AI startups. Large incumbents such as Intel, Google, or Johnson & Johnson are adopting a unique approach by taking a minority stake in innovative young firms instead of acquiring them and integrating them into their own organizations. These startups remain independent, and with the support of these incumbents, they can further develop their promising technologies and explore new markets (Block et al., 2018). More favorably, companies like Google, Amazon, IBM, and Microsoft (GAIM) play a pivotal role in the AI ecosystem. They provide the platform, AI infrastructure, development environments, and 'plug-and-play AI services that are widely used by developers and consumers of AI (Kelnar, 2019). Positioned as powerful platforms supporting the provision of AI, these companies have the potential to accrue substantial value and drive innovation in the AI industry. Their contributions help create a thriving ecosystem for AI startups and foster innovation in the AI domain.

On the contrary, bootstrapping, crowdfunding, and bank loans are the least used financing options for AI ventures. Typically, bootstrapping emerges as a suitable approach for businesses that do not require excessive funding in the initial stages. Nevertheless, AI-powered companies often demand considerable investments, making traditional Friends, Family, and Fools (FFF) funding less prevalent in this domain (Warzyńska, 2020). Moreover, crowdfunding is seldom employed as a financing method for high-tech companies, especially those harnessing advanced technologies like AI (Corea, 2017). Additionally, traditional bank loans and other debt are not commonly favored for financing new or growing ventures (Leach & Melicher, 2021).

Overall, the soaring investments in AI ventures signify immense confidence in the transformative potential of AI technologies and their significant impact on various industries worldwide. By understanding the financing landscape and tapping into the support from various

stakeholders, AI startups can continue to thrive and drive innovation in the fast-paced and ever-evolving world of AI entrepreneurship.

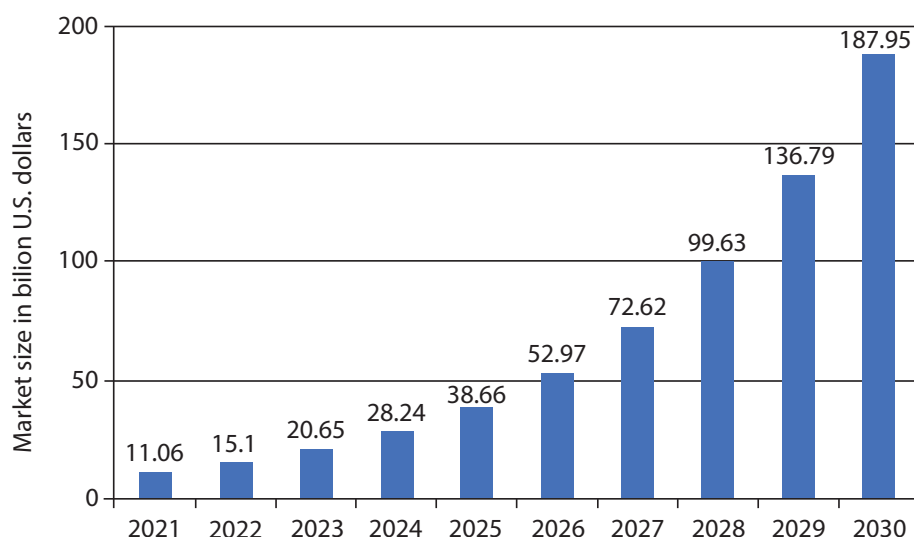
4. STRATEGIC FINANCIAL PROJECTIONS AND EXIT STRATEGY

Competing in fast markets based on AI, from self-autonomous vehicles to ChatGPT, requires the growth of companies in this field in accordance with the growth of this phenomenon in various dimensions. To understand how fast such a market is, it is enough to know that the mentioned market is anticipated to experience an expansion at a CAGR (compound annual growth rate) of 35.6% from 2023 to 2030, where AI's market size will reach USD 109.37 billion (GRAND VIEW RESEARCH, 2023). According to Figure 1, even if a company relying on AI in healthcare earns 1 billion dollars in 2023 (approximately 4.8% of the total revenue) and cannot follow the predicted 16 percent growth in 2030 and keep more or less its current income, in the target year, will only contribute half a percent of the total revenue, which practically indicates a significant decrease in its market share.

That is why startups should have an ambidextrous approach, according to White and Bruton (2017), in markets based on AI, in a way that exploiting efficiently their current resources while exploring future resources for planned growth. Planned growth could be in the format of a product development process where companies have determined strategies to follow or surpass the AI market demands through new product platforms, derivatives of existing product platforms, Incremental improvements to existing products, and/or fundamentally new products (Ulrich et al. 2020). Based on such a growth plan, AI startups predict the future cash flow and required financial resources comprising startup, first, second, -round, mezzanine, and liquidity-stage financing (Leach and Melicher, 2018a). A bitter consequence is that every new round of financing needs issuing new shares which will be extracted from AI startup owners' shares. This process leads to owners' control dilution. On the other hand, such agile businesses are likely to score high on the Classification Guidelines for Completing the VOS Indicator™, according to Leach and Melicher (2018b), one of which is IPO potential <2 years. The above concepts warn entrepreneurs that they should also determine exit strategies from the very beginning of their business design. The good news is that this exit does not mean the end, but rather a new beginning. However, the exit strategy can be chosen among the options comprising systematic liquidation, outright sale, or going public depending on the conditions and owners' preferences.



Figure 1. Artificial intelligence (AI) in healthcare market size worldwide from 2021 to 2023.



Source: Statista.com/statistics/1334826/ai-in-healthcare-market-size-worldwide

According to Petty et al. (1999), willing and able buyers may come and go quickly, and the markets for initial public offerings often move quickly between being “hot” or “cold.” For example, the intermediaries of investment banks have several options that they must prioritize investment options through due diligence to persuade investors to invest. Therefore, business owners should always be ready for the opportunities available in the harvesting stage by providing the projected financial statement based on the desired growth. An important aspect in this context is calculating the future venture worth based on the desired growth and not the history of the company because what investors are looking for is to know whether the return on their desired investment will be provided based on the projected growth. Such estimates will be possible through one of the methods comprising discounted cash flow, venture capital valuation, and so forth.

5. CONCLUSION

The paper has traversed the captivating landscape of AI entrepreneurship, exploring the challenges and triumphs faced by startups in their quest for success. Our journey through this research paper has revealed that the world of AI startups is not a mere reflection of conventional investment paradigms; it is an enigmatic realm where bold visionaries and pragmatic strategists navigate the uncharted waters of technological disruption and market volatility.

Throughout this exploration, we have witnessed the pivotal role of strategic decision-making in shaping the trajectory of AI startups. From securing initial funding to building strong partnerships and scaling operations, every step taken by these innovative ventures is laced with profound implications for their future. We have observed

that strategic investing in AI startups requires a delicate balance between risk-taking and prudence, as well as an unwavering commitment to fostering innovation.

The success stories of some AI startups inspire awe and optimism, while the cautionary tales of others offer valuable lessons. Visionary leaders armed with deep industry insights and a commitment to ethical practices have emerged as driving forces behind transformative startups. These leaders recognize that the journey to success is not a solo endeavor but a collaborative effort that involves engaging stakeholders from diverse backgrounds, including researchers, developers, investors, and policymakers.

In our quest to understand the strategic investment landscape, we have uncovered the significance of responsible investing in AI startups. As this domain becomes increasingly intertwined with sensitive ethical and regulatory considerations, investors must prioritize sustainable growth over short-term gains. By prioritizing ethical AI practices, data privacy, and social impact, investors can create an environment that fosters innovation and earns the trust of the public, fortifying the longevity of AI startups.

Moreover, this research paper has highlighted the profound impact of market dynamics on strategic investing in AI startups. In a rapidly evolving landscape, where technological advancements unfold at breakneck speed, investors must remain agile and adaptable. The ability to discern opportunities, pivot when necessary, and capitalize on market shifts is critical in determining the survival and prosperity of AI startups.

As we conclude this odyssey, we must acknowledge that the journey of strategic investing in AI startups is far from over. It is an ongoing expedition that requires continuous learning, evolution, and a willingness to embrace change. The symbiotic relationship between investors and



startups will continue to shape the future of AI and define the boundaries of human innovation. To prospective investors, policymakers, and industry stakeholders, we offer the wisdom gained from this research paper: approach the world of AI startups with a curious mind, a strategic vision, and an unwavering commitment to ethical and responsible practices. Embrace the uncertainty of the voyage, for it is in the uncharted waters that the most transformative discoveries are made.

In closing, "The Odyssey of Strategic Investing in AI Startups" seeks not only to enlighten but also to inspire. May this exploration serve as a guiding beacon for those venturing into the dynamic realm of AI entrepreneurship, steering them towards making informed decisions and shaping a future where technology and humanity harmoniously coexist, propelling us ever forward into a world of endless possibilities.

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