

Mikael Luostarinen

**VENTURE CAPITAL GUIDING TECHNOLOGY  
STARTUPS**



JYVÄSKYLÄN YLIOPISTO  
INFORMAATIOTEKNOLOGIAN TIEDEKUNTA  
2024

## **ABSTRACT**

Luostarinen, Mikael

Venture Capital Guiding Technology Startups

Jyväskylä: University of Jyväskylä, 2020, 31 pp.

Major subject, Information Systems, bachelor's Thesis

Supervisor(s): Riekkinen, Janne

The importance of venture capital (VC) on startups has been evident for a long time. In recent years the technological landscape has evolved rapidly, and the importance of Venture Capital is ever more important. This thesis explores how venture capital investments impact the strategies employed by technology startups, with a focus on how these investments facilitate innovation and market differentiation. This thesis has been done as a literature review. The motivation for this research was my interest in startups and finance. Key sources were derived from databases including JYKDOK, Google Scholar, IEEE Xplore, and Scopus, emphasizing recent and credible scholarly articles that discuss venture capital, startup innovation, and technology management. The study reveals that venture capital not only provides essential funding but also strategic guidance that is critical for startups to navigate complex market conditions and leverage technological advancements effectively. Findings suggest that venture capitalists employ a variety of strategies to identify and nurture high-potential startups, thereby significantly impacting their innovation capabilities and market positions. This thesis concludes that venture capital is a key driver of innovation and economic growth within the technology sector, offering benefits but also presenting challenges that require strategic management and understanding.

Keywords: Startup, Technology startup, Venture Capital, Investment strategies

# TIIVISTELMÄ

Luostarinen, Mikael

Riskipääoma ohjaamassa teknologia-alan startup-yrityksiä

Jyväskylä: Jyväskylän yliopisto, 2024, 31 s.

Tietojärjestelmätiede, kandidaatintutkielma

Ohjaaja: Riekkinen, Janne

Pääomasijoitusten merkitys startup-yrityksille on ollut ilmeinen jo pitkään. Viime vuosina teknologinen toimintaympäristö on kehittynyt nopeasti, ja riskipääoman merkitys on yhä tärkeämpi. Tässä tutkielmassa käsitellään, miten pääomasijoitukset vaikuttavat teknologiapainotteisten startup-yritysten käyttämiin strategioihin, ja keskitytään siihen, miten nämä sijoitukset edesauttavat innovointia ja markkinoilla erilaistumista. Tämä tutkielma on toteutettu kirjallisuuskatsauksena. Motivaationa tutkimuksen tekemiseen oli kiinnostus startupista sekä rahoitusalaan. Keskeiset lähteet poimittiin tietokannoista, kuten JYKDOK:sta, Google Scholarista, IEEE Xploresta ja Scopuksesta, painottaen viimeaikaisia ja uskottavia tieteellisiä artikkeleita, joissa käsitellään riskipääomaa, startup-innovaatioita ja teknologiajohtamista. Tutkimus paljastaa, että pääomasijoitukset eivät tarjoa ainoastaan tärkeää rahoitusta vaan myös strategista ohjausta, joka on ratkaisevan tärkeää, jotta startup-yritykset voivat navigoida monimutkaisissa markkinaolosuhteissa ja hyödyntää teknologista kehitystä tehokkaasti. Tutkimustulokset viittaavat siihen, että pääomasijoittajat käyttävät erilaisia strategioita potentiaalisten startup-yritysten tunnistamiseen ja tukemiseen, mikä vaikuttaa merkittävästi niiden innovaatiokapasiteettiin ja markkina-asemaan. Tämän tutkielman lopputuloksena on, että pääomasijoittaminen on teknologia-alan startupien innovoinnin ja talouskasvun keskeinen ajaja, joka tarjoaa etuja mutta myös haasteita, jotka edellyttävät strategista johtamista ja ymmärrystä.

Asiasanat: startup, teknologia-startup, pääomasijoittaminen, investointistrategiat

# SISÄLLYS

TIIVISTELMÄ

ABSTRACT

FIGURES AND TABLES

1	INTRODUCTION .....	5
2	VENTURE CAPITAL.....	7
2.1	Definition of Venture Capital.....	8
2.2	Venture Capital Ecosystem .....	8
2.3	Venture Capital Investment Process.....	10
2.3.1	Venture Capital Financing Models.....	12
2.3.2	Valuation Techniques .....	12
3	TECHNOLOGY STARTUPS .....	14
3.1	Definition .....	14
3.1.1	Definition of startups .....	14
3.1.2	Technology startup .....	15
3.2	Technology Startup culture.....	16
3.3	“Disruptive” Technology Startups.....	18
3.4	Financial Aspects of Technology Startups .....	18
4	IMPACT OF VENTURE CAPITAL ON TECHNOLOGY STARTUPS.....	21
4.1	Integration of Venture Capital in Startup Development .....	21
4.2	Impact on Innovation and Competitive Advantage.....	22
4.3	Challenges and Considerations .....	23
4.4	Long-Term Implications and Exit Strategies .....	24
5	CONCLUSION .....	26
	REFERENCES.....	28

# 1 INTRODUCTION

As the landscape of technology and innovation continues to evolve, the role of venture capital in shaping the future of technology-oriented startups has become a critical area of study. Particularly, the utilization of advanced technologies and other possibly disruptive technologies is experiencing a significant surge in popularity within the areas of entrepreneurial finance and startup growth in the recent years. These technologies are not only pivotal in driving operational efficiencies and scaling efforts but are also crucial in differentiating startups in highly accelerating markets.

This thesis analyses the interactions between venture capital (VC) investments and the behaviors that investors project, and the growth and other strategies of technology-oriented startups. Specifically, it explores how these investors identify potential investment opportunities, the criteria they use to evaluate startups, and how their strategic inputs help these young companies to differentiate themselves and scale in a competitive landscape. The aim of the thesis is to find the strategies that venture capitalists use to effectively identify, invest in, and nurture technology-oriented startups, particularly in how these strategies drive innovation, market differentiation, and sustainable growth in increasingly competitive and technology-driven markets.

This thesis seeks to examine startup entrepreneurship and the impact venture capital has on technology startups. This thesis aims to answer the following research question(s):

- How do venture capital investments affect the development and implementation of innovation and growth strategies in technology-focused startups?
- What investment behavior and criteria do venture capitalists use to navigate the technology startup ecosystem?
- How do these investment decisions and strategies affect the broader context of competition and innovation in the technology sector?

This study was conducted as a literature review, using scholarly research literature as its main source material. The literature was chosen mainly from known

and trusted journals in the field, along with other credible sources. The source material was mainly retrieved from the JYKDOK database of the University of Jyväskylä, Google Scholar, IEEE Xplore and Scopus. The keywords used for searching the material included “startup”, “technology startup”, “startup investment” and “Venture Capital”, with these keywords also being used in combination with others. The selection criteria for literature were guided by recentness and credibility, focusing on publications that offer further insights into venture capital, startup innovation and technology management.

The structure of the thesis is as follows. Introduction, Venture Capital, Technology Startups, Impact of Venture Capital on Startups and Conclusion. In the first content chapter, the definition of venture capital and strategies used in venture capital investing are discussed. The chapter also discusses the types of methods VC investors employ. The second content chapter introduces the concept and definition of technology startups and examines their characteristics. This section also discusses how these startups leverage technology to drive innovation. The third content chapter discusses venture capital in affecting the growth and innovation of technology startups following with further consideration on investment strategies and long-term sustainability and success of startups. The last content chapter presents the conclusions of this thesis and the possible future directions related to the subject.

This thesis focuses on examining venture capital and its relation to technology startups at a general level. Startups within organizations and individual technologies related to startups are delimited outside the thesis.

## 2 VENTURE CAPITAL

Venture capital (VC) is a type of private equity investment that supports startups and small businesses with potential for significant growth, primarily through financial and strategic resources. This chapter will first define venture capital, outlining its essential characteristics and the role it plays in the startup ecosystem. The chapter is structured as follows. Section 2.1 provides a historical perspective, explaining how venture capital evolved and its impact on the technology sector. Section 2.2 discusses the venture capital ecosystem, detailing the network of relationships between investors, startups, and intermediaries that facilitate the flow of capital and expertise. Section 2.3 covers the venture capital investment process, including the stages of funding from initial investment to exit strategies.

## 2.1 Definition of Venture Capital

The origins of the venture capital industry trace back to the post-World War II era, with the establishment of the first true venture capital firm, American Research and Development Corporation (ARDC), in 1946 (Ante, Spencer E, 2008). This was spearheaded by notable figures such as Georges Doriot, the "Father of Venture Capitalism," who saw the potential for private equity in commercializing military technology (Gompers & Lerner, 2001). The industry evolved through various phases, adapting to regulatory changes and market conditions. The 1980s marked significant growth due to favorable regulatory reforms and the burgeoning tech industry, fostering environments like Silicon Valley that became synonymous with venture-funded technological innovation (Saxenian, 1990).

Venture capital (VC) is a type of private equity and financial investment that provides funding to startups and small businesses with strong growth potential. Unlike traditional financing sources, venture capital invests equity capital, rather than debt, and takes higher risks in anticipation of higher rewards (Gompers & Lerner, 2001). This form of investment is crucial for companies that do not have access to capital markets due to their size, assets, or stage of development. Venture capitalists are typically involved in the company's management and often provide strategic advice, mentoring, and access to their network of contacts in various industries and government.

## 2.2 Venture Capital Ecosystem

The venture capital ecosystem comprises a network of investors, entrepreneurs, and various intermediary entities that interact to foster innovation and drive economic growth. This ecosystem is characterized not just by financial transactions but also by the strategic relationships and market dynamics that influence venture capital operations.

Venture capital serves as an important intermediary in the financial markets by providing necessary capital to firms that might otherwise struggle to attract financing. These firms are typically small, young, and operate under high uncertainty with few tangible assets, making them risky investments (Gompers and Lerner, 2001). Venture capitalists fund these high-risk, potentially high-reward projects and bring management expertise, strategic guidance, and additional resources. The venture capital model is particularly effective in overcoming market gaps and asymmetries between what entrepreneurs know and what investors can see, purchasing equity or equity-linked stakes while firms are still privately held (Gompers and Lerner, 2001).



Increasingly, venture capitalists are recognizing the importance of sustainability in startups. Sustainable venture capital specifically aims to fund startups that not only promise financial returns but also contribute positively to society and the environment. Such capital investments are important for fostering innovation in sustainable business models and encouraging startups to adhere to sustainable practices that enhance long-term success and resilience (Bocken, 2015). By focusing on sustainable venture capital, investors are not just providing funds but are also actively shaping the future of industries towards more sustainable practices.

Venture capital investment behaviors are influenced significantly by market conditions. For instance, venture capital activities fluctuate considerably under market uncertainty, with distinct differences observed in the behaviors of U.S. and UK investors (Shuwaikh et al., 2022). These investors typically adjust their strategies based on macroeconomic indicators, market trends, and regulatory environments. The ability of venture capitalists to navigate this uncertainty determines their success in capitalizing on investment opportunities and mitigating risks associated with startup investments (Shuwaikh et al., 2022).

The venture capital industry exhibits significant geographical disparities. Regions such as Silicon Valley, New York, and Boston are not only hotspots due to their dense concentration of tech innovation, entrepreneurial culture, and substantial funding, but also due to the superior performance of venture capital investments in these areas (Chen et al., 2010). The geographical concentration in these hubs is primarily driven by the historical success rates of investments and the presence of established venture capital firms that prefer to invest locally, which further perpetuates the cycle of innovation and economic growth in these areas. Furthermore, venture capital firms in these centers often achieve greater success in investments outside their local regions, paradoxically, than in local investments (Chen et al., 2010). However, more recent research complicates this understanding, showing that the effect of local venture capital availability on the propensity of enterprises to seek external equity diminishes significantly with geographical distance and nearly disappears when crossing national boundaries, particularly into regions that lack similar cultural and institutional frameworks (Colombo et al., 2019).

The divergence in these findings may reflect broader shifts in the venture capital industry and global market dynamics over the last decade. While earlier studies like those by Chen et al. (2010) observed successful outcomes in ventures beyond local confines, more recent analysis suggests an increasing relevance of geographic, cultural, and institutional proximities in realizing successful venture capital investments. This could be influenced by several factors, including advancements in communication technologies, changes in international trade policies, or increased awareness of cultural sensitivities, which now play a more significant role in the strategic deployment of venture capital across borders.

## 2.3 Venture Capital Investment Process

The venture capital investment process typically involves a multi-stage approach designed to mitigate risks and maximize returns. Multi-staged financing is optimal for venture capital firms as it offers significant risk reduction at the cost of slightly lower potential returns (Dubil, 2004). Venture capitalists typically start with small amounts of seed capital and progressively invest more as the startup meets predefined milestones. This sequential investment strategy allows venture capitalists to manage risks effectively by evaluating the project at each stage before committing further funds, ensuring that guidance and resources are provided at critical points in the startup's growth trajectory (Dubil, 2004).

The venture capital investment process can be broadly divided into several key stages. Each stage involves specific actions and goals that help guide the startup towards success. Gompers et al. (2016) gives a very broad categorization of stages: seed, early, mid and late stages. Gompers et al. (2016) elaborates, that 62% of venture capital firms specialize in particular stages of the startup cycle. Besides the broad categorization of startup stages, the typical steps in the whole process vary as well, but the typical operations venture capitalists go through are deal sourcing, investment selection, valuation, deal structuring, post-investment value-add and exits (Gompers et al., 2016).

Venture capitalists generate a pipeline of potential investment opportunities through their networks, referrals, and proactive efforts. Approximately 30% of deals are sourced from professional networks, 20% from other investors, and 8% from portfolio companies (Gompers et al., 2016). According to Gompers et al. (2016) Self-generated deals account for about 30%, while only 10% come in-bound from company management.

Investment Selection Involves evaluating potential investments based on market attractiveness, strategy, technology, product or service, customer adoption, competition, deal terms, and the quality and experience of the management team. This multi-stage selection process ensures that only the most promising opportunities proceed to the next stages (Gompers et al., 2016).

**TABLE 1 Selection criteria for Investment Selection (Gompers et al., 2016)**

Selection Criteria	Description
Market Attractiveness	Assessing market potential and size
Strategy	Evaluating business strategy and model
Technology/Product	Innovation and competitive advantage
Customer Adoption	Potential for market penetration and growth
Competition	Analysis of competitive landscape
Deal Terms	Financial and legal terms of investment
Management Team	Experience and capability of the team

As seen from table 1, the venture capital investment selection is an elaborate process of due diligence. Once an investment is selected, deal structuring comes into play. This phase involves crafting terms that balance protection for the investor with incentives for the entrepreneur. Common elements in VC deals include liquidation preferences, anti-dilution provisions, and vesting schedules, which are strategically utilized to align interests and safeguard the investment against underperformance or adverse market conditions (Gompers et al., 2016). Post-investment, venture capitalists actively engage in adding value to their portfolio companies. This involvement ranges from providing strategic guidance and operational support to facilitating key hires and introductions to potential customers and additional investors. Such engagement is crucial as it enhances the startup's growth prospects and positions it for successful future funding rounds or an exit (Gompers et al., 2016). The final stage involves exiting the investment, typically through an Initial Public Offering (IPO) or acquisition. The timing and method of exit are critical to realizing the returns on investment (Gompers et al., 2016; Bowen et al., 2023). Exit strategies will be further discussed in chapter 4.

In addition to these stages, recent studies emphasize the role of sustainability in venture capital. As discussed in chapter 2.2, sustainable venture capital focuses on funding startups that promise not only financial returns but also positive societal and environmental impacts. This approach has become increasingly important as investors recognize the benefits of sustainable business practices (Bocken, 2015).

Moreover, venture capital activities vary significantly under different market conditions and regulatory environments. For example, the behaviors of U.S. and UK investors differ considerably under uncertainty (Shuwaikh et al., 2022). As discussed in chapter 2.2, venture capitalists typically adjust their strategies based on different indicators, market trends, and regulatory environments. Geographical disparities also play a crucial role in venture capital investments, as discussed in chapter 2.2.

### 2.3.1 Venture Capital Financing Models

Venture capital financing models are structured to support startups at various stages of their growth, providing necessary funding and resources at critical points. These stages typically include the seed stage, startup stage, expansion stage, and a late stage, each with specific objectives and investor types.

The primary purpose at the seed stage is to determine the potential of a planned product or service (Gompers et al., 2016). Initial funding is directed towards concept development, creating prototypes, and conducting preliminary market research. This phase is crucial for demonstrating the viability of the business idea. Typical investors are early-stage venture capitalists who are willing to take high risks for potentially high rewards (Gompers et al., 2016).

At the startup stage, the focus shifts to developing, marketing, and selling the initial product. Funding is used to refine the product, enter the market, and build an initial customer base (Bocken, 2015). According to Bocken (2015) this stage is essential for validating the business model and proving market demand. Investors at this stage are usually early-stage venture capital firms and continued support from seed investors (Gompers et al., 2016).

Once the startup has a proven business model and is generating revenue, the goal is to scale the business and achieve significant market penetration. Funds are used to expand operations, increase production capacity, and enhance marketing efforts. This stage often attracts later-stage venture capitalists and private equity firms that can provide substantial capital to support rapid growth of firms that can accept larger blocks of financing (Gompers & Lerner, 2001).

The final stage before an exit strategy, such as an Initial Public Offering (IPO) or acquisition, focuses on optimizing operations, enhancing market position, and maximizing returns (Gompers et al., 2016). Significant capital is required for expansion and final preparations for a public offering or sale. Investors at this stage include late-stage venture capitalists, private equity firms, and strategic investors looking for stable, high-return investments (Gompers et al., 2016).

Throughout these stages, venture capital firms play a critical role not only in providing funding but also in offering strategic guidance, networking opportunities, and operational support (Gompers et al., 2016). This relationship between entrepreneurs and venture capitalists is marked by high levels of uncertainty and requires careful navigation of control and equity distribution (Shuwaikh et al., 2022).

### 2.3.2 Valuation Techniques

Valuation techniques are essential in venture capital as they help investors assess the potential value and return on investment of startups (Gompers et al., 2016). The most common valuation methods include Discounted Cash Flow (DCF) analysis, Internal Rate of Return (IRR), and multiples of invested capital.

The Discounted Cash Flow (DCF) Analysis method involves forecasting the future cash flows of a startup and discounting them to their present value using a discount rate. DCF analysis considers the time value of money and the risk associated with future cash flows, making it particularly useful for startups with more predictable cash flow projections. This method is widely used due to its thoroughness in evaluating the long-term potential of an investment (Damodaran, 2012). However, as Gompers et al. (2016) specifies, early-stage startup projections have little information and high uncertainty, which leads to venture capitalists utilizing more simple valuation techniques.

The Internal Rate of Return (IRR) method calculates the rate of return that makes the net present value (NPV) of all cash flows (both incoming and outgoing) from a particular investment equal to zero. It is a metric for evaluating the profitability of potential investments and is commonly used to compare the profitability of multiple investment opportunities (Gompers et al., 2016). IRR provides a clear percentage return expected from the investment, helping investors make informed decisions.

The Multiples of Invested Capital method compares the startup to similar companies in the industry to determine its value. Valuation multiples, such as earnings before interest, taxes, depreciation, and amortization (EBITDA), revenue, or net earnings, are used as benchmarks (Metrick & Yasuda, 2010). This approach is used for its simplicity and ease of comparison across different companies, making it a popular choice for valuing startups in various stages of growth.

Valuations not only reflect the current state of a company but also incorporate investor expectations about future growth and profitability. High valuations, especially those that classify a company as a “unicorn” (valued at over \$1 billion), can significantly impact a startup’s ability to attract further investment and talent (Gompers et al., 2016).

## 3 TECHNOLOGY STARTUPS

Technology startups are a subset of businesses distinguished by their focus on developing and utilizing innovative technologies to disrupt existing markets or create new ones. Typically characterized by high growth potential and scalability, these enterprises leverage advancements in technology to offer novel solutions that significantly impact various industries. The structure of the chapter is as follows. Section 3.1 will define what constitutes a startup and, more specifically, a technology startup. Section 3.2 will look into the culture of technology startups, exploring the environment that fosters their growth and success. Section 3.3 will discuss “disruptive” technology startups, and the concept of “disruptive”. Section 3.4 will discuss the financial aspects of technology startups.

### 3.1 Definition

Despite the common characteristics attributed to startups, such as innovation and scalability, there is no single universally accepted definition. Academic literature and businesses analyses present a spectrum of definitions that vary somewhat, reflecting different perspectives depending on the sector, the market, and the technological focus of the business.

#### 3.1.1 Definition of startups

The concept of “startup” has undergone significant transformation over the last few decades. Initially, the term was broadly applied to any new business. However, the late 1990s and the dot-com bubble era marked a pivotal moment in the definition and perception of startups (Scott & Nicos, 2018). This period saw a surge in technology-oriented businesses that aimed to leverage the potential of the internet. Companies like Amazon and Google, which began as small ventures, became symbols of rapid growth and high scalability.

A widely used and known definition for startups come from Steve Blank, a widely known figure in the startup ecosystem, who has offered substantial insights into the definition of startups, particularly with his emphasis on business models as a framework for understanding startup objectives. According to Blank (2010a), a startup is an organization formed to search for a reputable and scalable business model. This definition shifts the focus from business creation to the pursuit of a model that can sustain rapid scaling and adaptation in response to market feedback. Blank further elaborates that a business model "describes how your company creates, delivers, and captures value" (Blank, 2010a). In simpler terms, it's about how a company makes money, which involves understanding the flows of products, services, and finances within the company's ecosystem. Blank (2010) underscores the importance of the business model as a central element that connects different parts of a company, from product development to customer delivery and revenue generation.

Complementing Blank's framework, Eric Ries (2011) defines a startup as "a human institution designed to create a new product or service under conditions of extreme uncertainty". Ries also highlights the adaptive and iterative process essential in startup development, which leverages lean principles to significantly reduce waste and focus sharply on understanding customer needs through a continuous feedback loop.

Similarly, Paul Graham (2012) emphasizes the imperative of rapid growth, stating that a startup is "a company designed to grow fast". For Graham, the essence of a startup lies in its capacity to scale operations swiftly to meet large market demands, which distinguishes startups from small businesses which might not have such ambitious growth targets.

Alexander Osterwalder's Business Model Canvas, highlighted by Blank (2010a), provides a visual representation of this concept, helping entrepreneurs to map out the essential components of their business strategies succinctly. This tool has become a widely used resource in the startup community for conceptualizing business operations and strategizing on value creation and growth (Blank, 2010b). Expanding on the business model, Blank introduces a three-stage model describing how startups evolve into large companies (Blank, 2010c). These stages – from being a scalable startup to undergoing a metamorphosis and finally becoming a large enterprise – outline the challenges and transformations that startups face as they grow. Each stage demands different strategies, skills, and resources, showing a comparison of startups compared to traditional businesses.

### **3.1.2 Technology startup**

Technology startups fundamentally reshape industries by leveraging core technological innovations to create, deliver, and capture value in unique ways. Unlike general startups, which may utilize technology as one among many tools, technology startups are centered on the development and application of new technologies as the primary component of their business model. This focus not

only propels their business strategies but also defines the products or services they offer.

Díaz-Santamaría and Bulchand-Gidumal (2021) discuss how technology startups often emerge as vital players in traditional sectors as well, adding value to knowledge and innovation. The defining trait of these startups is their inherent need to address complex problems with novel tech-based solutions, which often positions them at the edge of market creation and expansion.

Innovation and Research and Development (R&D) are not peripheral activities but lie at the center of most technology startups. These endeavors are important in not only shaping the product development strategies but also in establishing essential interfirm alliances during the formative years of a company (Stam & Wennberg, 2009). For startups aiming for high growth, engaging in R&D provides a strong foundation for continuous innovation and maintaining agility in dynamic market conditions (Stam & Wennberg, 2009). This ongoing commitment to innovation through R&D is important in building a competitive advantage that can significantly influence a startup's trajectory and sustainability in the technology sector.

The agility of technology startups is also reflected in their approach to business modeling. As noted by Karimi and Walter (2021), the ability to scale rapidly is crucial and is often facilitated by digital platforms that allow these startups to expand their reach without the corresponding increase in physical infrastructure. This scalability is particularly advantageous in the tech sector, where market dynamics can shift dramatically with each technological advancement.

Furthermore, the operation of technology startups within highly regulated sectors means the navigation of legal and ethical landscapes. The handling of sensitive data, especially in areas like financial tech and health tech, places additional responsibilities on these companies to operate within stringent regulatory frameworks while innovating.

## 3.2 Technology Startup culture

Technology startup culture, deeply rooted in innovation and entrepreneurial spirit, serves as the basis for fostering dynamic growth and strategic resilience in competitive environments. It influences the company's ability to respond swiftly to market opportunities and technological changes.

A primary characteristic of technology startups is their unique culture of rapid innovation and flexibility, which is important for continuous development and adaptation amid evolving technological landscapes and consumer demands. Weiblen and Chesbrough (2015) emphasize the benefits of open innovation processes, noting that these collaborations enhance a startup's innovative capabilities by facilitating agile responses to new technologies and market demands.



Moreover, technology-based startups must nurture a culture that supports their critical success factors (Santisteban et al. 2021). This includes promoting an innovative and entrepreneurial mindset across the organization, vital for developing new products and services that align with emerging market needs. Such a culture does not spontaneously arise but is deliberately cultivated to integrate advanced technologies and innovative business practices as central components of the startup's strategy.

Koskinen (2023) suggests that while startup culture exhibits considerable variation across different regions, certain universal attributes such as agility, risk tolerance, and a lean operational model are consistently advantageous, highlighting the importance of cultural adaptability in different markets, which can significantly influence a startup's innovation processes and scaling efforts internationally. As discussed in chapter 2.2, it is evident that geographic, cultural, and institutional proximities have become increasingly significant in venture capital investment decisions. These factors are not isolated but interconnected with the essential traits of startup culture as identified by Koskinen. Agility, risk tolerance, and a lean operational model, while universally beneficial, are often shaped and expressed differently depending on the local cultural and institutional contexts. Therefore, the ability of startups to adapt these attributes to the specific conditions of their operating environments can be a critical determinant of their success in attracting venture capital and achieving growth on an international scale.

Initially, startup culture tends to be informal and fluid, conducive to rapid experimentation and iteration. As the startup matures, the necessity for structure and more formalized processes emerges, requiring a balance between maintaining flexibility and instituting management practices to support sustainable growth (Santisteban et al. 2021). The integration of new talents and technologies also plays a role in shaping the culture of a technology startup. As startups expand, they attract diverse talents who introduce new ideas and perspectives, potentially enriching or clashing with the existing cultural framework.

The success of a technology startup often hinges on the capabilities of its team. The entrepreneurial team must not only possess diverse skills but also share a common vision and the ability to work in a highly fluid environment (Santisteban et al., 2021). Team dynamics should support open communication, mutual trust, and a shared commitment to the startup's goals. Emphasizing knowledge sharing and communication, particularly from business professionals, is important for building strong team social capital and enhancing overall team performance (Lee et al., 2015).

Effective management in technology startups is significantly influenced by the founder's ability to handle uncertainty and foster a culture of innovation. Startup leaders must be adept at both strategic decision-making and operational flexibility. The management team needs to balance short-term tactical decisions, such as product features and customer acquisition strategies, with long-term strategic goals like securing funding and scaling operations (Nuscheler, Engelen, & Zahra, 2019). This balance is crucial for transforming new product introductions into growth, especially when the management team has relevant startup experience.

### 3.3 “Disruptive” Technology Startups

The notion of “disruption” is frequently invoked across discussions of startups, especially when entrepreneurs present their ideas to investors or the media. This term has become a buzzword within the startup ecosystem, emblematically represented by major industry events. An idea, product, or company is described as “disruptive” when it has the potential to radically alter market dynamics or the consumption patterns of a product or service. Clayton Christensen introduced this concept in his 1995 article, “Disruptive Technologies: Catching the Wave,” and further explored it in his influential 2013 book, “The Innovator’s Dilemma”. Christensen’s theory draws an analogy to 1970 Thomas Kuhn’s paradigm shifts in science, suggesting that just as accumulated anomalies disrupt scientific understanding, market anomalies will disrupt existing business models.

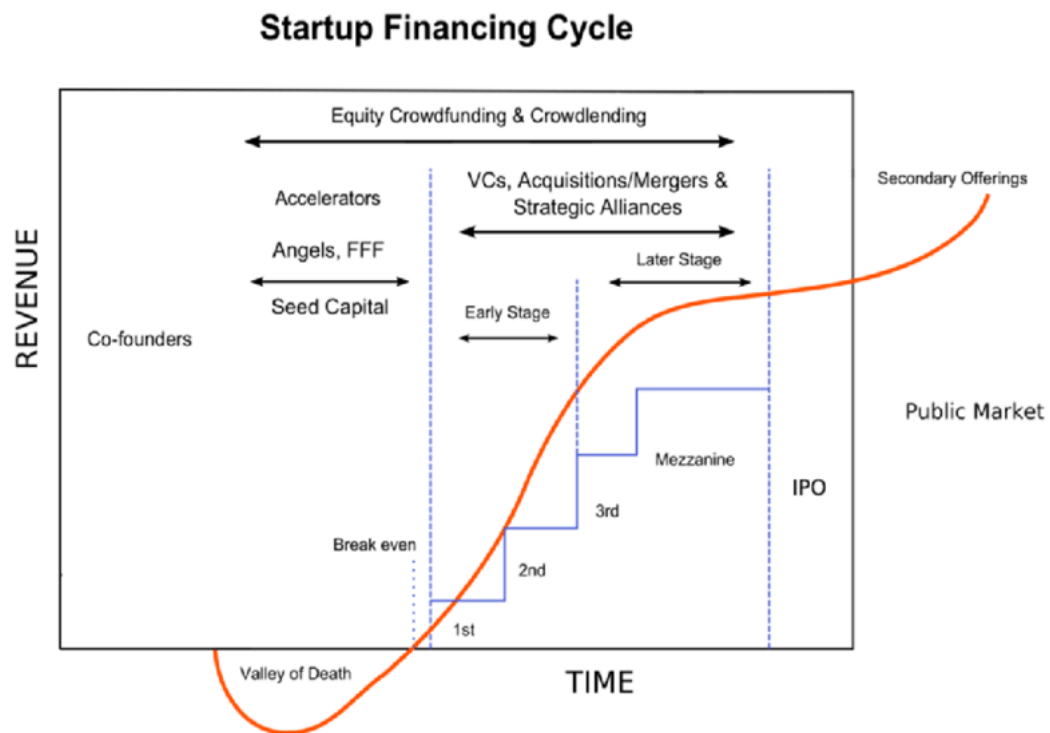
However, the term “disruption” has come under criticism for its overuse and dilution into a mere buzzword, often employed as bait to attract investment or to generate media buzz. Critics argue that discussions around disruption frequently serve to garner attention without substantial backing of genuine market transformation (Bedigian, 2012; Daub, 2020). Christensen’s framework articulates how market leaders often overlook innovations because they do not meet current customer needs, inadvertently setting the stage for their own disruption as market preferences evolve. While this analysis sheds light on the reasons behind the failure of large companies, King and Baatartogtokh (2015) argue that Christensen’s theory, while influential, lacks robust empirical testing and may not adequately predict actual market behavior.

From a theoretical standpoint, disruptive innovation provides a lens to understand business failures rather than a predictive model for success. It highlights the historical and contextual nature of market shifts, emphasizing that the theory itself is an “artifact of history” shaped by specific circumstances rather than a universal law.

### 3.4 Financial Aspects of Technology Startups

The “Startup Financing Cycle” graph (Figure 1) provides a visual representation of the typical financial journey of a technology startup. This progression is marked by an initial plunge into the “valley of death,” where startups face high cash burn rates as they invest heavily in product development, market entry, and organizational setup without substantial revenues.

Figure 1. Startup Financing Cycle



(Ojeaga, 2015)

At inception, startups typically rely on seed funds—a form of working capital provided by the founders themselves or by angel investors motivated by the startup's vision rather than immediate financial returns. This early capital injection supports the startup through its preliminary phases, allowing it to reach critical milestones that make it attractive for subsequent rounds of investment (Cotei & Farhat, 2017). The reliance on personal savings, friends and family, and personal debt during this phase is necessary due to the high information asymmetry and the inherent risks associated with early-stage ventures (Cotei & Farhat, 2017).

Venture capitalists enter the scene as startups begin to show potential for rapid growth, often after initial revenue generation or significant user base expansion. As risk-takers, VCs provide not only capital but also strategic guidance to help startups scale operations and refine their business models (Li, Porter & Suominen, 2018). Their involvement is important in steering startups away from the valley of death towards financial stability and growth (Ojeaga, 2015).

As startups progress beyond the break-even point, they become viable candidates for more substantial funding rounds, including venture funds and, eventually, public market investments through initial public offerings (IPOs) and secondary offerings. At this stage, a startup is often considered successful not only financially—by achieving revenues that surpass operating costs—but also competitively, by carving out significant market share (Cotei & Farhat, 2017).

In the latter stages of development, startups may also engage in crowdfunding and crowd lending as methods to diversify their funding sources (Ogeaga, 2015). Crowdfunding, often facilitated by venture capitalists, and crowd lending, typically associated with IPOs and secondary market offerings, represent funding mechanisms that startups can utilize to leverage public support for further expansion (Ojeaga, 2015).

The progression depicted in the “Startup Financing Cycle” graph aligns closely with the financial growth cycle theory by Berger and Udell (1998), which posits that a startup’s financing needs and options evolve alongside its growth and decreasing information opacity (Cotei & Farhat, 2017). Cotei and Farhat (2017) elaborate that the theory provides a conceptual framework that explains why startups transition from relying heavily on insider capital to engaging with venture capitalists and eventually accessing public markets.

## **4 IMPACT OF VENTURE CAPITAL ON TECHNOLOGY STARTUPS**

Venture capital (VC) plays a critical role in the lifecycle of technology startups, not only by providing essential financial resources but also by integrating strategic insight and guidance that steer startups through their development phases. Building on the discussions from earlier chapters, this chapter will look into how VC investments interact and integrate within the startup development processes, focusing particularly on their role in fostering innovation and ensuring competitive positioning within the market. Chapter 4.1 will examine the integration of VC in startup development. Chapter 4.2 discusses the impact of VC on innovation and competitive advantages. Chapter 4.3 considers challenges and considerations, and chapter 4.4 discusses long-term implications and VC exit strategies.

### **4.1 Integration of Venture Capital in Startup Development**

Venture capital firms are often pivotal in transforming innovative ideas into viable business models. The engagement of VC provides startups with not just capital but a wealth of expertise, networks, and resources. As discussed in Chapter 2, VCs employ a meticulous investment selection process, often focusing on startups that demonstrate potential for high growth and disruptive innovation.

From seed funding to subsequent financing rounds, VC involvement is typically structured around key development milestones. This staged financing, as highlighted in earlier discussions, allows VCs to mitigate risks by providing funds in stages, contingent on the startup achieving predefined operational and developmental milestones (Sousa & Rocha, 2019).

Venture capitalists play a significant role in enabling startups to navigate the changing technological landscape. By leveraging their industry insights and expertise, VCs help startups adapt to emerging technologies and market trends.

For instance, the integration of disruptive technologies such as AI, IoT, and blockchain has been significantly driven by venture-backed startups. Venture capital's influence extends significantly across various sectors through strategic funding and expert guidance, exemplified for example in the AI and blockchain technologies:

1. **AI and Machine Learning Startups:** Venture capital has been instrumental in the rise of AI startups. By providing not just funding but also strategic guidance and access to technology partnerships, VCs have enabled these companies to pioneer innovations in machine learning applications (Gupta, 2018).
2. **Blockchain Technology:** Venture capital has helped startups from ideation to execution, enabling them to leverage this technology to disrupt traditional industries such as banking and supply chain management (Gupta, 2018).

## **4.2 Impact on Innovation and Competitive Advantage**

Venture capital accelerates innovation within startups by supplying them with resources to pursue high-risk, high-reward projects, as discussed in earlier chapters. Research illustrates that venture capital not only quickens the pace of innovation but also broadens its scope, enabling startups to undertake ambitious and potentially groundbreaking projects. Venture capitalists provide essential funds and managerial support, particularly in high-tech industries, facilitating the transition from invention to innovation and enhancing innovative output (Arqué-Castells, 2018). Moreover, the presence of venture capital enhances a firm's ability to innovate by mitigating financial constraints and supporting technology development, leading to a substantial increase in the share of innovative sales (Liu, 2023). Additionally, venture capital funding is especially critical during economic downturns, providing a stable source of capital for innovative startups and ensuring continuous development and commercialization of new technologies (Amina & Ali, 2022).

As previously discussed in Chapter 3, disruptive technology startups challenge existing market norms and redefine competitive landscapes. Venture capitalists play a big role in nurturing these disruptions by investing in startups that leverage new technologies to create shifts in their industries. By supporting ventures that innovate beyond incremental advances, VCs contribute directly to the emergence of market leaders that disrupt established business models and consumer behaviours.

Beyond merely sparking initial innovation, venture capital helps startups to sustain long-term competitive advantages. Through strategic guidance and scaling expertise provided by venture capitalists, these startups can rapidly scale operations and achieve significant market penetration. This strategic scal-

ing is important for maintaining an edge in highly competitive markets. For example, Li, Porter and Suominen (2018) show that VC-backed startups often lead in adopting disruptive technologies, thus maintaining their competitiveness over the long term.

Venture capitalists employ strategic maneuvers, such as staged financing and active managerial involvement, which are important for aligning startup growth with market opportunities and innovation trajectories. These strategies ensure prudent investment and maximize the potential for startups' success. According to Sousa and Rocha (2019), venture capitalists also play a big role in imparting essential management skills for handling disruptive digital businesses, thus equipping startup leaders with the competencies needed to navigate complex market landscapes.

### 4.3 Challenges and Considerations

One of the fundamental challenges in the VC-startup relationship is the potential misalignment of goals. Venture capitalists typically seek rapid returns on investments, urging startups to scale quickly, often before they are fully prepared. This push for premature scaling can strain a startup's operational capacities and lead to strategic missteps. As Picken (2017) claims, it is evident that premature scaling is a common pitfall during the transition from startup to scalable enterprise. Such scaling can dramatically increase the risk of failure, as startups may not have a solid operational foundation in place. Additionally, Giardino et al. (2014) discusses how early-stage software startups often fail due to a mismatch between managerial strategies and market execution. Thus, it is evident that there exists a critical need for maintaining strategic alignment throughout the startup's lifecycle.

The drive for rapid growth influenced by VC investment can also lead to broader ecosystem imbalances, such as market saturation and inhibited innovation. Startups might prioritize short-term gains to satisfy investor demands at the expense of long-term innovation and market stability (Jun, 2014). This VC-driven approach to innovation can reduce the diversity of startup strategies and focus excessively on short-term marketable solutions. Furthermore, concentrated VC investments in specific sectors or business models can lead to market distortions and potentially inhibit the development of truly disruptive technologies, as discussed in earlier chapters.

Navigating the risks associated with VC funding requires startups to develop strategies that balance investor expectations with their own strategic goals. Startups must negotiate terms that allow for sustainable growth, which includes managing the pace and scale of development in alignment with operational capabilities. It is suggested that maintaining strategic autonomy while securing funding is crucial for long-term success (Bedi, 2020).

## 4.4 Long-Term Implications and Exit Strategies

Venture capital investments are not just injections of funds into startups; they are also engagements that shape the strategic directions of these companies. Over the long term, these investments influence company culture, operational priorities, and market approaches. For example, Bowen et al. (2023) discuss how rapidly evolving technologies can steer startups towards specific exit strategies that may not align with the original business models but promise higher returns on investment. This misalignment can lead to shifts in product development priorities or market approaches, potentially affecting the startup's core mission and long-term sustainability.

Moreover, the presence of venture capital can drive startups towards accelerated growth trajectories, aiming for a quicker exit. This pressure can lead to scaling challenges, as noted by Picken (2017), where the focus shifts from establishing a sustainable business model to growing at a pace that may not be manageable in the long term. The emphasis on rapid scaling to appease investor expectations for a timely exit can strain resources, dilute company cultures, and increase the risk of operational failures.

The exit strategy, whether through an initial public offering (IPO), acquisition, or another route, significantly impacts both the venture capitalists and the startup founders. Each strategy comes with different implications for control over the company, financial returns, and the company's strategic direction post-exit.

1. **IPOs:** Going public can provide a startup with access to more capital and increase its public visibility, but it also imposes stringent regulatory requirements and pressures from shareholders. IPOs backed by venture capital sponsors show significant differences in short and long-term performance due to higher levels of information asymmetry and strategic operational differences (Buchner et al., 2019).
2. **Trade sales** are the prevailing exit strategy for venture capital investments in Europe, as evidenced by the higher frequency of trade sales compared to IPOs (Revest & Sapio, 2012).
3. **Merger:** Merging with another company might provide a strategic advantage by combining resources, technology, and market presence. Still, it can also lead to significant cultural clashes and integration challenges that may undermine the combined entity's value proposition (Lee et al., 2019).
4. **Secondary Sales:** These allow for partial exits by the VCs, providing liquidity while potentially maintaining some control and continuing to influence the company's direction. This strategy can balance long-term growth with short-term liquidity needs (Andrieu & Groh, 2019). However, agency conflicts and the balance between short-term and long-term investments can affect corporate policies and investor relations (Gryglewicz et al., 2020).



Exit strategies can also influence the competitive dynamics of the market and the broader innovation landscape. For example, frequent acquisitions of startups by major corporations can lead to market consolidation, which might stifle competition and innovation if fewer players dominate the market. Conversely, successful IPOs can inspire more entrepreneurial activity and innovation as they demonstrate the financial viability of innovative business models.

Additionally, Santisteban et al. (2021) suggests that understanding the critical success factors at different stages of a startup's life cycle, including the exit stage, can mitigate risks and enhance the chances of a successful exit that benefits both the startup and the broader ecosystem.

## 5 CONCLUSION

This thesis set out to explore the role that venture capital plays in the development and growth of technology startups, with a specific interest in understanding how venture capital impacts the innovative capacity and growth trajectories of these companies. By conducting a thorough literature review and analysis, this study has shown that the dynamics between venture capital investments and the operational and strategic evolution of technology startups are complex.

Venture capital serves as an important catalyst for technology startups, not only by providing necessary financial resources but also by embedding strategic expertise and networks that are vital for navigating competitive markets. Findings suggest that venture capital enables startups to rapidly scale operations, enhance their technological capabilities, and position themselves advantageously in their respective industries. Risks are also evident in venture capital related funding, and requires careful navigation to avoid common pitfalls, such as misalignments of goals leading to a premature scaling of a startup.

**Table 2 Research questions and findings**

Research question	Key Findings	Implications for Startups
How do venture capital investments affect the development and implementation of innovation and growth strategies in technology-focused startups?	Venture capital boosts innovation by providing capital, strategic guidance, and market access. It facilitates rapid scaling and operational growth.	Startups receive essential resources to overcome early-stage vulnerabilities and accelerate market entry and expansion.
What investment behavior and criteria do venture capitalists use to navigate the technology startup ecosystem?	VCs follow a rigorous selection process focusing on innovation potential, market opportunity, and the strength of the management team.	Startups need to align their projects to meet these criteria to attract VC funding.
How do these investment decisions and strategies affect the broader context of competition and innovation in the technology sector?	VC investments increase market competitiveness by promoting disruptive innovations and supporting aggressive growth strategies.	Startups can leverage VC insights and networks to position themselves advantageously in competitive markets.

The implications of these findings extend beyond the individual companies to influence the broader economic and technological landscapes. As venture capitalists select and nurture the startups that push technological boundaries, they also influence the competitive dynamics of markets, driving innovation and potentially leading to the disruption of established industry paradigms.

While this literature review provides insights into the role of venture capital in technology startups, there are limitations that suggest directions for future research. The scope of this study is confined to the existing literature and does not include primary empirical research, which could offer additional nuances especially in understanding the subjective experiences of startup founders and venture capitalists.

Future studies could focus on longitudinal analyses to track the long-term effects of venture capital on startup success and sustainability. Investigating how different types of VC funding impact various technology sectors could also uncover more specific investment patterns and outcomes. Additionally, further exploring the geographical differences in venture capital activity could provide more conclusive insights into how regional ecosystems influence startup success and VC strategies.

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