



CHALMERS

Beyond the Crowd: Mapping the Path from Successful Equity Crowdfunding to Venture Capital

A Multiple Case Study

Bachelor's thesis in Industrial Engineering and Management

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Beyond the Crowd: Mapping the Path from Successful Equity Crowdfunding to Venture Capital

A Multiple Case Study

Bortom mängden: En kartläggning av vägen från aktiebaserad gräsrotsfinansiering till riskkapital

En multipel fallstudie

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SUMMARY

Problem

Startups have become a significant driver of employment and technological development across EU member states. Although these ventures offer high-growth opportunities, they face challenges in securing sufficient capital to scale their operations. Equity crowdfunding (ECF) has emerged as an alternative funding mechanism, enabling early-stage ventures to raise capital and validate their business model. However, the amounts raised through ECF are typically insufficient for large-scale operations, making subsequent venture capital (VC) financing a natural next step.

Aim

This study examines which signals of venture quality are associated with successful outcomes across both ECF and VC financing contexts.

Theoretical framework

The study applies signalling theory to explain how entrepreneurs communicate unobservable venture quality under conditions of information asymmetry. Since the non-professional crowd and VC investors differ in analytical capabilities, the same signal may be interpreted differently across financing contexts

Method

A qualitative multiple case study design was employed, analysing five UK-based ventures with different financing trajectories between 2018 and 2025. Data were collected exclusively from publicly available secondary sources and analysed using qualitative content analysis structured around four signal categories: Human Capital, Product & Market, Financial Structure, and Social Capital.

Result and Implications

The results show that founding team expertise, demonstrated market demand and third-party validation are associated with successful outcomes in both ECF and VC contexts. However, the interpretation of a high-quality signal shifts depending on the investor audience. The findings further reveal that when certain signals are absent, VCs are willing to accept compensatory signals in favour of future scalability and market potential, to a greater extent compared to the crowd. Finally, the case analysis presents insights regarding how ECF, beyond its role as a financing tool, can serve as a signalling instrument that makes venture quality visible to institutional investors.

Keywords: Equity Crowdfunding, Venture Capital, Signaling Theory, Information Asymmetry, Startup Financing

SAMMANFATTNING

Problem

Startups har blivit en betydande drivkraft för sysselsättning och teknologisk utveckling inom EU:s medlemsstater. Även om dessa företag erbjuder stora tillväxtmöjligheter står de inför utmaningar när det gäller att säkra tillräckligt kapital för att skala upp sin verksamhet. Aktiebaserad gräsrotsfinansiering har vuxit fram som en alternativ finansieringsmekanism som gör det möjligt för företag i tidiga skeden att samla in kapital och validera sin affärsmodell. De belopp som samlas in genom aktiebaserad gräsrotsfinansiering är vanligtvis inte tillräckliga för storskalig verksamhet, vilket gör efterföljande riskkapital till ett naturligt nästa steg.

Syfte

Syftet med denna studie är att undersöka vilka signaler på bolagskvalitet som är förknippade med framgångsrika utfall inom både aktiebaserad gräsrotsfinansiering och riskkapitalfinansiering.

Teoretiskt ramverk

Studien tillämpar signalteori för att förklara hur entreprenörer kommunicerar icke-observerbara bolagskvaliteter under förhållanden präglade av informationsasymmetri. Eftersom den icke-professionella mängden och riskkapitalister skiljer sig åt i analytisk förmåga kan samma signal tolkas olika beroende på finansieringskontext.

Metod

En kvalitativ multipel fallstudiedesign tillämpades, där fem brittiska bolag med olika finansieringsbanor mellan 2018 och 2025 analyserades. Data samlades in uteslutande från allmänt tillgängliga sekundära källor och analyserades utifrån fyra signalkategorier: humankapital, produkt & marknad, finansiell struktur samt socialt kapital.

Resultat och implikationer

Resultaten visar att grundarteamets expertis, bevisad marknadsefterfrågan och validering från tredje part är förknippade med framgångsrika utfall inom både gräsrotsfinansiering samt riskkapitalfinansiering. Bedömningen av vad som utgör en högkvalitativ signal varierar dock beroende på investerarpublik. Vidare visar resultaten att riskkapitalister, i större utsträckning än mängden, är villiga att acceptera kompensande signaler till förmån för framtida

skalbarhet och marknadspotential när vissa signaler saknas. Slutligen bidrar fallstudieanalysen med insikter om hur aktiebaserad gräsrotsfinansiering, utöver sin roll som finansieringsverktyg, även kan fungera som ett signaleringsinstrument som synliggör bolagskvalitet för institutionella investerare.

Nyckelord: Aktiebaserad gräsrotsfinansiering, riskkapital, signalteori, informationsasymmetri, startupfinansiering.

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1. Introduction

In today's society, ambitious and high-growth startups play a central role in employment, productivity growth and technological advancement across Europe (Reypens et al., 2020; Schulze Brock et al., 2025). Studies have shown that newly established high-growth companies create substantial employment effects. For every ten jobs created by large corporations, such companies generate 16 new jobs, highlighting their significant impact on the labour market. Furthermore, the European fintech sector is estimated to have the potential to create more than 364 000 new jobs and reach almost €1 trillion in total valuation (Botta et al., 2022). However, tech ventures are typically characterised by substantial capital requirements, particularly in early stages where investments in regulatory compliance and technological infrastructure are required. To reach €5 million in annual revenue, the median required funding amounts to €9 million for such ventures, illustrating the significant capital needs associated with scaling high-growth technology-based ventures (Erntell et al., 2024). Despite their potential, startups are often perceived as high-risk borrowers, since they have both limited assets to pledge as collateral and limited creditworthiness (Berger & Udell, 1998; Walthoff-Borm et al., 2018). Consequently, traditional financial intermediaries, such as banks, are hesitant to invest or lend capital to startups.

Although there are financial intermediaries, such as venture capital (VC) firms, targeting early-stage ventures to invest in, VC financing is highly selective and therefore accessible to a limited subset of ventures (Adwani, 2025; Gompers et al., 2020; Isaksson et al., 2026). Venture capitalists (VCs) may evaluate hundreds of investment opportunities, while only a small fraction receives an investment. This selectivity has in recent years become more pronounced, as the VC market has been characterised by increasing deal sizes and a decline in the total number of investments (Moore, 2026). Taken together, these characteristics indicate enhanced competition among ventures seeking VC investment, resulting in further limited access to funding.

Considering the challenges associated with obtaining financing from banks and VCs, alternative funding models have emerged (Adwani, 2025; Walthoff-Borm et al., 2018). Crowdfunding, being one of them, is a form of investment that through digital platforms connects mainly small and medium-sized enterprises and startups in early stages with a crowd potentially willing to invest (Kaminski et al., 2016). Equity crowdfunding (ECF) is a specific type of crowdfunding in which investors receive equity in exchange for their investment. Within Europe, the United Kingdom (UK) represents the largest market for ECF in terms of both number of campaigns and capital raised (Butticè et al., 2020). Between 2014 and 2024, more than 2 500 UK-based companies raised funding through ECF (McCrea, 2025). However, the amount of capital raised through ECF is significantly less than in

equity deals involving VC and private equity (PE) firms in the UK. In 2024, the median capital raised amounted to £500 thousand and £1.72 million respectively, indicating that ECF is typically sought when ventures do not yet require larger amounts of funding. As such, ECF is typically not the final source of financing for high-growth ventures, but rather serves as an initial funding stage (Butticè et al., 2020). A successful ECF campaign may signal market validation and thereby facilitate access to subsequent VC financing (Butticè et al., 2020; Signori & Vismara, 2018).

Prior research has studied the determinants of successful crowdfunding campaigns, identifying various signals and campaign characteristics that influence campaign outcomes (e.g. Ahlers et al., 2015; Colombo et al., 2015; Piva & Rossi-Lamastra, 2018). Similarly, the VC literature has examined how VCs screen potential investment opportunities looking at factors such as founder experience, scalability and market potential (e.g., Gompers et al., 2020; Kaplan & Strömberg, 2004; Vinig & De Haan, 2002). However, only limited research has explored the connection between crowdfunding and VC, and how an entrepreneur can strategically navigate the transition from receiving crowdfunding to attracting subsequent VC financing. Consequently, the relationship between signals from successful crowdfunding campaigns and VC investment criteria remains insufficiently understood, as also highlighted by Butticè et al. (2020). To bridge this gap, the core research question of this study is: Which signals of venture quality are associated with successful outcomes across both ECF and VC financing contexts?

To answer the question, this study conducts five case studies of ventures operating in the UK, representing three distinct financing trajectories: two firms that have successfully raised capital through both ECF and subsequent VC, one firm that has relied solely on ECF, and two firms that have relied solely on VC. The case studies are preceded by a background section providing an overview of crowdfunding and VC. This is followed by a theoretical framework, presenting the concept of information asymmetry and signalling theory. The study's aim and delimitations are then specified, followed by a description of the applied methodology. The results section subsequently presents the findings of the case studies which are later discussed and analysed in relation to the theoretical framework in the discussion section.

1.1 Background

1.1.1 Crowdfunding

Crowdfunding has, in recent years, become an increasingly established topic within academic research, as well as a more common source of alternative financing (Butticè et al., 2020). It enables entrepreneurs to raise capital from the crowd, typically through online platforms such as Kickstarter, Crowdcube and Republic Europe (previously Seedrs) (McCrea, 2025). The size of crowdfunding campaigns varies substantially. In the context of ECF, where investors receive equity in exchange for their investment, the median campaign size in the UK amounted to £500 000 in 2024. However, individual campaigns may reach significantly higher levels. For example, the crowdfunding campaign of the fintech company Monzo in 2018 raised £20 million from 36 006 individual investors (Crowdcube, n.d.-b). Beyond raising capital, a crowdfunding campaign may also generate market validation and customer engagement (Agrawal et al., 2014; Ermawati, 2024). This is because contributors often act as early adopters, revealing underlying demand whilst providing feedback that supports further development.

Crowdfunding initially emerged as a niche method to fund independent art projects and creative endeavours (Agrawal et al., 2014). For example, in 2013, the Veronica Mars film project raised more than \$5.7 million from a total of 91 585 backers to produce the movie, which was later released the following year (Rob Thomas, 2019). Over time, crowdfunding has evolved into a major segment of the global alternative finance sector, a system of funding methods that operate outside of traditional banking (Mollick, 2014; Ziegler et al., 2021). The global alternative finance market (excluding China) has grown significantly, facilitating approximately \$113 billion in transaction volumes globally in 2020 (Ziegler et al., 2021). Within Europe, the UK has the largest alternative finance market, accounting for 56% of total regional market volume. Crowdfunding models play a foundational role in this ecosystem; when including debt-based models, alongside reward, donation and equity-based platforms, crowdfunding accounts for nearly 88% of the total alternative financing market (Ziegler et al., 2021). Today, crowdfunding is utilised across highly diverse industries. Technology startups, real estate development and innovative consumer goods represent some of the most funded sectors, demonstrating the model's expansion far beyond its creative origins (Mollick, 2014).

Transactions within crowdfunding are categorised into four primary models, defined by what the backer receives in return for their financial contribution (Ahlers et al., 2015; Bradford, 2012). Below, they are presented in descending order based on their share of total crowdfunding volume in the UK in 2019:

Table 1: *Types of Crowdfunding in 2019*

Type	Market share	Description
Lending-based crowdfunding	72%	The crowd provides a loan to the entrepreneur with the expectation of repayment with interest over a set period, typically to fund general business purposes (Bradford, 2012; Ziegler et al., 2021).
Donation-based crowdfunding	22.4%	No financial or material return is expected. Backers contribute primarily out of philanthropic or personal interest to support a specific project or cause (Bradford, 2012; Ziegler et al., 2021).
Equity-based crowdfunding	5%	Backers invest capital in exchange for unlisted shares or a direct ownership stake in the company (Ahlers et al., 2015; Ziegler et al., 2021).
Reward-based crowdfunding	0.6%	Backers receive a non-financial reward in exchange for their investment. This often functions as a pre-order system for a product that is yet to be manufactured (Mollick, 2014; Ziegler et al., 2021).

Although lending-based crowdfunding represented the largest segment of crowdfunding in the UK in 2019, accounting for approximately 72% of total crowdfunding volume, it was substantially influenced by institutional capital (Ziegler et al., 2021). More than two thirds of the capital came from institutional investors, such as banks and pension funds. In contrast, ECF accounted for 5% of total crowdfunding volume in the UK in 2019, however, it was primarily funded by non-institutional investors, who provided 93% of the segment's funding volume. As ECF investors receive ownership stakes in the venture, the campaign affects the venture's ownership structure and consequently how subsequent investors, such as VCs, might evaluate the venture's future financing potential (Butticè et al., 2020). This makes ECF particularly relevant to examine and, accordingly, the remainder of this study focuses on ECF. For a more detailed overview of the different crowdfunding models, see Appendix A.

An ECF campaign generally operates across three critical phases: the preparation phase, the live campaign phase and the post-campaign and cap table management phase. During the **preparation phase**, startups must structure their offering for a crowd that lacks the resources for traditional due diligence. To build trust, companies prepare comprehensive documentation, including a valuation, a pitch deck and a term sheet outlining financial and legal conditions (Ahlers et al., 2015). In addition, companies highlight organisational attributes such as retained founder equity and experienced board members (Cumming et al., 2020). Once the campaign enters the **live campaign phase**, it becomes publicly available on the platform and investors can begin pledging capital. The campaign generally operates under the “all-or-nothing” model, under which the entrepreneur receives the pledged funds

only if the campaign reaches its funding target within a specified time frame (see Appendix B) (Colombo et al., 2015; Vismara, 2018). During the active fundraising period, the start-up's primary objective is to market the venture and attract backers. Securing a significant portion of the funding early on, often by bringing in a lead investor, is a common practical strategy used to validate the campaign and encourage broader participation from the crowd (Colombo et al., 2015; Vismara, 2018).

Following a successful campaign, the firm enters the **post-campaign and cap table management phase**, where the investments must be formalised and shares allocated to the investors (Walthoff-Borm et al., 2018). Since an ECF campaign typically attracts a large number of investors, the firm acquires a fragmented ownership structure. This process requires systematic management of the capitalisation table, which is a formal record of ownership stakes and voting rights among the investors (Hornuf & Schwienbacher, 2017). Furthermore, the firm must establish procedures for ongoing corporate governance and investor relations, ensuring the highly fragmented shareholder base is managed efficiently as the company continues to operate (Hornuf & Schwienbacher, 2017; Walthoff-Borm et al., 2018).

1.1.2 Venture Capital

VC is a form of professional financing primarily targeting startups and early-stage companies with high growth potential (Adwani, 2025; Isaksson et al., 2026). Unlike the fragmented crowd, VC firms are typically small organisations with 14 employees on average, and are often structured as limited partnerships (Gompers et al., 2020; Metrick & Yasuda, 2021). Investment managers, known as general partners (GPs), manage the fund and make investment decisions, while external investors, known as limited partners (LPs), such as banks, insurance companies and pension funds, provide the GP with capital to manage. The capital provided by LPs is collected into funds that the GP manages over a period of typically five to ten years (Isaksson et al., 2026). During this time, the GP allocates capital to several companies, which together form the fund's portfolio.

The purpose of constructing a portfolio is primarily to manage risk, since a significant share of venture investments fail to return capital (Gompers et al., 2020; Isaksson et al., 2026). On average, 24% of VC investments are reported to have a multiple of invested capital (MOIC), meaning the total value returned relative to the original investment, below one and 19% to have a MOIC between one and two. This implies that approximately 43% of the portfolio companies are expected to lose money on a present value basis. Another way for VC firms to manage risk is through syndication, meaning that not one single VC firm or investor carries all the risk; instead, several investors jointly invest in a single company (Isaksson et al., 2026). These co-investors may include other VC firms or **business angels**, referring to private individuals who invest their own capital in early-stage ventures and may also contribute with previous entrepreneurial or industry-specific experience (Metrick & Yasuda,

2021). In addition, investments may be staged over time and conditioned on the company meeting predefined milestones, such as financial or operational targets (Isaksson et al., 2026).

Given the importance of managing risk, VC firms rely on structured investment processes, which can broadly be divided into three stages: the investment phase, the value creation phase and lastly the exit phase (Isaksson et al., 2026). During the **investment phase**, VC firms conduct a screening process in which they search for, evaluate and eventually narrow down potential investment opportunities. In this process, the investor evaluates the potential investment by looking at a variety of screening criteria, such as market growth, founding team quality and market acceptance (Gompers et al., 2020; Isaksson et al., 2026; Jang & Kaplan, 2025). VC firms may screen hundreds of potential opportunities, of which only a small subset is selected for more detailed evaluation (Metrick & Yasuda, 2021). For the most promising ventures, a preliminary offer may be made in the form of a term sheet. Upon acceptance of the term sheet, the VC firm proceeds with a more extensive due diligence process. If the due diligence confirms the venture's quality and does not reveal any concerns, the parties proceed to negotiate the final terms, culminating in the signing of contracts and the closing of the deal. On average, a VC deal takes 83 days to close, during which firms devote 118 hours to due diligence (Gompers et al., 2020).

Deal sizes vary across a firm's life cycle and generally increase as companies progress through successive financing rounds. These financing rounds typically begin with early-stage funding, such as **pre-seed** and **seed**, followed by later financing rounds including **Series A, B, C and D** (Costa, n.d.). Pre-seed funding is commonly used to support product development and concept validation, while seed funding enables firms to refine their product and begin testing market demand. If a firm demonstrates a viable product and promising growth prospects following the seed stage, it may seek Series A funding, potentially followed by subsequent rounds to further develop and scale the business. Across these financing rounds, companies exhibit varying capital requirements, risk profiles and strategic needs, which is reflected in increasing median deal sizes. In Europe, the median deal size in 2025 was approximately \$0.6 million for pre-seed rounds and \$2.4 million for seed rounds (Moore, 2026). At later rounds, the median deal size increased significantly, reaching \$12.4 million for Series A, \$32.6 million for Series B, \$55.6 million for Series C and \$86.0 million for Series D.

Following the investment phase, VC firms enter the **value creation phase**, during which they aim to support the venture's growth and increase its market value over a period of five to ten years (Isaksson et al., 2026). This may involve board participation, strategic guidance as well as recruitment support (Metrick & Yasuda, 2021). These activities are ultimately aimed at preparing the company for the **exit phase**, where returns are realised through a successful exit, commonly through mergers and acquisitions or an initial public offering. For a more detailed overview of the value creation and exit phases, see Appendix C.

Beyond the already highly competitive nature of obtaining VC investment, VC is also unevenly distributed across regions and sectors, suggesting that underlying investor preferences and market conditions further influence the probability of receiving funding (Metrick & Yasuda, 2021). Empirical findings indicate that geographical distance between investors and startups negatively affects both the likelihood and size of investments (Sefried & Uhl, 2025), which is reflected in the dominance of North America in global VC activity (Metrick & Yasuda, 2021; Stanford et al., 2026). A more detailed overview of regional and sectoral VC investment patterns is provided in Appendix D.

1.1.3 The Relationship Between Equity Crowdfunding and Venture Capital

For a venture, securing an initial round of capital is rarely the end goal (Drover et al., 2017). To enable scaling and continued development, firms typically require follow-on financing. As outlined in previous sections, ECF and VC provide varying levels of capital. While ECF enables early-stage ventures to raise capital and validate demand, the amounts raised are typically limited compared to VC funding (McCrea, 2025). Therefore, VC becomes an alternative next step for ventures seeking to scale beyond what a crowdfunding campaign can normally provide. However, as the two funding forms differ substantially in terms of investor characteristics, available resources and evaluation processes, the transition from ECF to VC is not straightforward (Butticè et al., 2020). Therefore, understanding how ventures are evaluated in this process is important for explaining which factors influence their ability to secure subsequent VC financing after an ECF campaign.

Empirical findings provide insight into how frequently the transition from ECF to VC occurs in practice. Signori and Vismara (2018), analysing 212 ECF funded ventures on Crowdcube between 2011 and 2015, find that 35% succeeded in raising follow-on capital, while 9% attracted funding from professional investors such as business angels or VCs. In a more recent study, Ahmad (2025), examining 537 ECF funded firms on the same platform, finds that 22% received VC funding following their campaign, of which 15% had already secured VC backing prior to the campaign. This suggests that ECF itself may generate relatively few entirely new relationships with VC investors. At the same time, these figures appear notable when compared to the broader market, where only 7.5% of European technology startups begin a VC financing journey at all (Atomico, 2023), and less than 0.25% of ventures obtain VC funding (Gompers et al., 2020). Taken together, these findings suggest that while the transition from ECF to VC is far from guaranteed, it may occur more frequently relative to the startup population at large.

To better understand this positive association, several underlying mechanisms have been proposed in prior research (Butticè et al., 2020; Drover et al., 2017; Roma et al., 2021). A successful ECF campaign reveals that a large number of individuals have independently evaluated the venture and collectively committed capital, thereby providing a form of market validation (Butticè et al., 2020).

Given that successful campaigns often involve between 150–500 investors, the scale of participation may offer later-stage investors tangible evidence of demand for the venture’s product or service. Campaign success may also reveal venture characteristics that are otherwise difficult to observe directly, including the entrepreneur’s ability to manage a funding process, set reasonable financial targets and price the offer credibly (Butticè et al., 2020). In this sense, ECF may communicate information about both market acceptance and entrepreneurial competence. Relatedly, Drover et al. (2017) show that crowdfunding success increases VCs’ willingness to conduct due diligence, and Roma et al. (2021) suggest that crowdfunding may function as a form of certification of unobserved quality.

Although a successful ECF campaign may be beneficial when seeking subsequent VC financing, it may also be interpreted unfavourably by professional investors, since the crowd rarely conducts due diligence comparable to VC standards (Walthoff-Borm et al., 2018). A successful ECF round may therefore fail to provide the type of quality certification typically associated with professional early-stage backing. VCs may also infer that the firm turned to ECF as a “last resort” because it was unable to attract more established investors earlier in its development. In addition, ECF may result in fragmented ownership structures and investor rights arrangements that constrain VC firms’ ability to exercise strategic direction, operational involvement and effective oversight in later rounds (Hornuf & Schwienbacher, 2017; Walthoff-Borm et al., 2018).

Ultimately, the relationship between ECF and subsequent VC funding is complex and context dependent, rather than uniformly positive or negative (Ahmad, 2025). This implies that a successful ECF campaign does not automatically guarantee or hinder future investment. Instead, the transition from crowd-based to professional investment appears to be affected by which observable indicators are signalled during the process and how they are interpreted by the VC. This interpretation takes place in an environment characterised by information asymmetry, where entrepreneurs typically possess more information about the venture than external investors (see Appendix E). Therefore, understanding how the crowd and VCs interpret these indicators is of considerable interest, as it may support entrepreneurs in navigating the transition between ECF and VC contexts (Drover et al., 2017).

1.2 Theoretical Framework

1.2.1 Signalling Theory

In contexts characterised by information asymmetry (see Appendix E), decision makers often use signals to convey otherwise unobservable information to external parties through observable actions or attributes (Connelly et al., 2025). This process is conceptualised in **signalling theory**, which explains how actors communicate information about their underlying quality or intentions (Connelly et al., 2011). The theory frames interaction as a two-actor process in which one party, referred to as the **sender**, strategically discloses information, while the other party, the **receiver**, forms interpretations of the signal. The sender, such as an entrepreneur, has information about, for instance, the venture's quality, product and internal capabilities that is not disclosed to the public. This information asymmetry can be mitigated through signalling, where signals reduce uncertainty by conveying credible information to receivers.

The effectiveness of a signal is generally characterised by two key attributes that ensure its efficiency and reliability (Connelly et al., 2011). The first attribute refers to the requirement that signals are observable to the receivers. When a signal cannot be observed, it becomes difficult for the sender to communicate information or intentions to the receiver. The second attribute concerns **signal cost**. For a signal to be effective, it must entail a cost that prevents it from being easily imitated by low quality actors on the market. Furthermore, this cost should be lower for high-quality firms than for low-quality firms, where firm quality refers to the quality of the offering (Kirmani & Rao, 2000). As a result, the signal becomes difficult to imitate, since providing the signal requires substantial changes such as obtaining a certification or education, associated with significant costs. Consequently, effective signals create barriers that prevent low-quality actors from imitating them, thereby preserving the credibility of the signal.

Central to signalling theory is the concept of **separating equilibrium**, which refers to the situation in which high-quality ventures can distinguish themselves from low-quality ventures through signals that are costly to imitate (Bergh et al., 2014). In such settings, low-quality firms are unable to imitate the signal, while high-quality firms manage to credibly provide it. In the context of this study, the ability to secure prior funding may function as such a signal, as higher-quality ventures are more likely to attract investors. Consequently, potential future investors can use this information to distinguish between ventures. If, however, both low- and high-quality ventures can provide the same signal, there is no meaningful separation, and the signal is therefore less useful. In such cases, the explanatory power of signalling theory is reduced, as the signal no longer conveys reliable information about the venture's quality.

Venture quality includes a range of underlying characteristics, such as founder competence, growth potential and risk, which are inherently difficult for an external investor to observe (Ahlers et al., 2015; Connelly et al., 2011). Consequently, investors must rely on observable signals such as an entrepreneur's background, prior funding and campaign characteristics to infer venture quality. The effectiveness of such signals does, however, not only depend on whether they create a separating equilibrium, but also on how well they reflect and communicate the venture's underlying characteristics. This can be understood through the concepts of signal fit and signal ambiguity (Connelly et al., 2011; Park & Patel, 2015; Piva & Rossi-Lamastra, 2018). **Signal fit** refers to how useful a signal is to the receiver, where the usefulness depends on how well the signal corresponds with the quality of the signaller receivers search for, for instance, how well the founder background reflects the founder's competence in regard to the problem the venture aims to solve. **Signal ambiguity**, in contrast, refers to how clearly and easily the signal can be interpreted or understood by receivers. For example, growth potential may be considered a signal with high ambiguity, as different investors may interpret it differently. An understanding of signal fit and signal ambiguity is particularly relevant in the transition from ECF to VC, as they may influence how a venture is perceived by the VC.

1.2.2 Signals in ECF and Venture Capital Screening

As established in preceding sections, ECF markets are characterised by pronounced information asymmetry, as non-professional investors often lack both the resources and expertise required to conduct thorough due diligence. Consequently, investors rely on observable signals to assess venture quality, while entrepreneurs must strategically disclose information in order to attract funding (Ahlers et al., 2015). Prior research identifies several signals associated with campaign success, such as founder characteristics and campaign design (Ahlers et al., 2015; Colombo et al., 2015; Nose & Hosomi, 2023; Piva & Rossi-Lamastra, 2018).

Unlike the crowd, VCs are professional investors with typically greater resources and expertise to conduct thorough due diligence on potential investments (Ahlers et al., 2015). During the investment phase, VC firms apply a structured screening process, considering a range of evaluation criteria to assess the potential of prospective ventures. These criteria often relate to aspects such as the entrepreneur, the product, the market and the financial structure (Isaksson et al., 2026; Vinig & De Haan, 2002). Although the screening process may be more sophisticated than investment decisions made by the crowd, both contexts operate under information asymmetry, as entrepreneurs hold more information about the true quality and potential of the venture (Akerlof, 1970). Therefore, screening criteria can function as observable signals that help VCs assess the quality of an investment

opportunity. Accordingly, this study conceptualises screening criteria as signals within the VC investment decision-making process.

Building on prior research on signals associated with ECF campaign success and VC screening criteria, this study groups the signals into four categories: (1) Human Capital, (2) Product & Market, (3) Financial Structure and (4) Social Capital.

The first category, **Human Capital**, concerns the characteristics and capabilities of the individuals behind the venture. In early-stage ventures, where financial performance and operational track records are often limited, the founding team becomes an important indicator of future viability (Gompers et al., 2020; Piva & Rossi-Lamastra, 2018). In ECF, observable and low ambiguity signals, such as *MBA on the Board*, *Financial Experience* and *Industry-Specific Experience* may help investors assess the venture's execution capability (Ahlers et al., 2015; Piva & Rossi-Lamastra, 2018). In VC screening, Human Capital is also central and often considered the most important category (Gompers et al., 2020; Jang & Kaplan, 2025; Vinig & De Haan, 2002), however, compared to ECF it is assessed more comprehensively. VCs evaluate less observable signals such as *Founding Team Quality* and *Entrepreneurial Passion and Personal Traits* (Warnick et al., 2018). Thus, while Human Capital signals matter in both contexts, ECF relies more on visible team characteristics, whereas VC screening enables a deeper assessment of founder quality and execution capability.

The second category, **Product & Market**, concerns signals related to the venture's offering and market potential. In ECF, such signals include *Intellectual Property*, *Market Traction* and *Business Model Understandability* (Colombo et al., 2015; Nose & Hosomi, 2023). Since these signals often derive credibility from third-party sources rather than from the entrepreneur directly, they may be more difficult for low-quality ventures to imitate. As a result, they function as stronger signals of underlying quality, thereby contributing to a separating equilibrium. VC screening criteria related to Human Capital are, as previously mentioned, often considered the most important aspect in VC screening, however, studies have shown that signals related to Product & Market become increasingly important as the investment level exceeds \$10 million (Jang & Kaplan, 2025). Such signals include *Proprietary*, *Market Growth*, *Size and Competition* as well as *Market Acceptance* (Gompers et al., 2020; Jang & Kaplan, 2025; Macmillan et al., 1985; Vinig & De Haan, 2002). Thus, while ECF investors may rely more on easily observable signals, VC screening focuses more on whether the venture demonstrates defensibility, scalability and the potential to capture a large and growing market.

The third category, **Financial Structure**, captures the financial characteristics of the investment opportunity and the information disclosed to investors. In ECF, such signals include, for instance, *Valuation and Share Price*, *Equity Retention* and *Financial Transparency and Forecasts* (Ahlers et al., 2015; Vismara, 2016). Founder *Equity Retention* represents a classical example of a costly signal, as it

indicates the extent to which founders remain financially exposed to the venture's future performance. A high share of equity offered to the crowd may therefore be interpreted as a weaker signal of founder commitment, while higher founder retention may signal confidence in the venture's future performance (Ahlers et al., 2015). In VC screening, financial structure is instead evaluated in relation to the venture's return potential and ability to provide liquidity within the investor's time horizon (Jang & Kaplan, 2025; Metrick & Yasuda, 2021). This is conceptualised in the signal *Exit Potential and Time Horizon*. However, exit-related signals appear to be less influential in early-stage investments, where signals related to Human Capital, Product & Market are typically weighted more heavily (Jang & Kaplan, 2025).

Lastly, the fourth category, **Social Capital**, concerns the credibility and momentum generated by external relationships and investor behaviour. In ECF, signals include *Early Professional Backing*, *Founder's Social Network Size* and *Herding and Early Momentum* (Ralcheva & Roosenboom, 2020; Razan & Widyastuti, 2022; Vismara, 2016). These signals differ from firm-specific characteristics as they derive their credibility from external actors. For example, prior funding from a business angel may indicate that the venture has already received professional validation, while campaigns securing capital quickly in the opening phase may signal to subsequent investors that the venture has been validated by peers (Ralcheva & Roosenboom, 2020; Vismara, 2016). In VC screening, signals related to Social Capital include *Network-Based Deal Sourcing* and *Syndication and Co-Investor Validation* (Gompers et al., 2020; Jang & Kaplan, 2025; Lerner, 1994). The channel through which a venture reaches a VC has been shown to influence the likelihood that the venture receives further attention. If the venture is referred to the VC by another investor, the likelihood increases. Similarly, syndication with other professional investors may signal that the venture has already been assessed and validated.

Taken together, these four categories help provide an understanding of how investors assess venture quality and how it is signalled in ECF campaigns and assessed in VC screening. Although the crowd and VCs typically differ in terms of investor sophistication and resource capacity, both rely on the interpretation of observable signals when evaluating ventures under information asymmetry.

However, the interpretation may change depending on, for instance, venture development or size of investment. Understanding how signals in different contexts might be interpreted in both ECF campaigns and VC screening may therefore help entrepreneurs communicate venture quality more effectively and navigate the transition from ECF to VC financing.

Table 2: Signals Table

Signal	Context	Note
1. Human Capital		
MBA on the Board	ECF	A higher share of MBAs on the board attracts more investors
Financial Experience	ECF	Prior work experience in formal financial roles, investment banking or senior commercial leadership
Industry-Specific Experience	ECF	Refers to an entrepreneur's work experience within the industry their start-up operates
Team Size and Board Composition	ECF	Larger team results in increased investment probability
Gender Composition	ECF	Gender diversity in the team is a mild positive signal, but female-led campaigns attract fewer investors and less capital
Founding Team Quality	VC	Founders' track record, leadership abilities and specific industry or technical experience in business and engineering
Entrepreneurial Passion and Personal Traits	VC	VCs specifically prioritise persistence and venture-building passion among entrepreneurs
2. Product & Market		
Intellectual Property	ECF	IP holdings are interpreted by the crowd as a signal of venture quality
External Validation – Grants and Awards	ECF	Trusted third party validation, such as governmental grants, provides credibility to the venture
Market Traction	ECF	Investors demand historical proof of demand
Business Model Understandability	ECF	Clear communication regarding value proposition serves as a key success factor
Proprietary	VC	Refer to a ventures' protection and uniqueness, and is an indicator of defensibility
Innovation and Research Alliances	VC	Research alliances signal technological capability more credibly than patents alone
Market Growth, Size and Competition	VC	VCs require evidence of a large addressable market to justify risk
Market Acceptance	VC	Market acceptance mitigates cash-out risk perception
3. Financial Structure		
Equity Retention	ECF	Founders bearing personal financial risk signals confidence in venture quality
Valuation and Share Price	ECF	Crowd uses intuition to assess if valuation is credible given available evidence
Financial Transparency and Forecasts	ECF	Investors reward ventures that acknowledge uncertainty about its forecast equally as providing actual forecast
Funding Goal and Minimum Investment Threshold	ECF	A low minimum investment threshold attracts more investors and builds early campaign momentum
Exit Potential and Time Horizon	VC	Exit potential, expected return timeline, and future financing needs, are less decisive than team and product signals in early stage
4. Social Capital		
Early Professional Backing	ECF	Financing from professional actors, such as BAs, signals credibility
Founder's Social Network Size	ECF	A large network increases campaign reach and generates early momentum
Herding and Early Momentum	ECF	Early investment momentum acts as social proof
Network-based Deal Sourcing	VC	The channel through which a venture reaches a VC firm functions as a signal of quality, where co-investor referrals carry the most weight
Syndication and Co-Investor Validation	VC	Backing from multiple respected VCs signals the deal has passed quality assessments from several experienced investors

Note. Signal descriptions are summarised from the literature reviewed. See Appendix F for detailed descriptions of each signal and their respective sources.

1.3 Aim

This study aims to support entrepreneurs in strategically navigating the transition from ECF to VC by mapping signals of venture quality associated with successful financing outcomes across both contexts. By examining historical funding trajectories of ventures, the ambition is to provide entrepreneurs with empirical guidance on which signals to strategically convey to achieve funding success. To address this purpose, the study is guided by the following research question:

Which signals of venture quality are associated with successful outcomes across both ECF and VC financing contexts?

This question is addressed through the following sub-questions:

- What signals are associated with successful ECF campaigns?
- What signals are associated with successful VC funding outcomes?
- Do the signals associated with ECF campaign success overlap with the criteria applied in VC screening?

2. Methodology

2.1 Research Philosophy and Approach

Research philosophy reflects how the researcher perceives the world and affects how the research strategy is designed and what methods will be used (Saunders et al., 2009). Two central components of research philosophy are ontology and epistemology.

Ontology is concerned with the nature of reality, and the assumptions researchers hold about how the world operates. This study adopts a constructivist ontological position. Constructivism suggests that reality is not something that exists independently of those who observe it, but is shaped by how people interpret and make sense of their experiences (Saunders et al., 2009). Applied to this study, venture quality signals are not properties that a firm either has or does not have. What one investor considers a strong signal of quality, another may disregard, depending on their background and previous experience. Two investors evaluating the same campaign may therefore reach different conclusions about that venture's quality.

While ontology concerns the nature of reality, epistemology addresses how knowledge about that reality can be obtained (Saunders et al., 2009). This study takes an interpretivist epistemological stance. Interpretivism holds that unlike physical objects, humans act based on the subjective meanings they assign to their circumstances, and that these meanings differ between individuals (Saunders et al., 2009). In this study, the investors examined are crowd investors evaluating ECF campaigns and VCs conducting due diligence. Their assessments of venture quality are not neutral evaluations of objective facts, but interpretive judgements shaped by prior experience and individual evaluation criteria. An interpretivist position is therefore appropriate, as the aim is not to identify signals that objectively predict outcomes, but to understand how signals functioned as quality indicators for the investors evaluating them.

An abductive research approach has been employed, characterised by a continuous interplay between theory and empirics (Dubois & Gadde, 2002). This iteration between literature and case findings facilitates the identification of patterns across empirical data and literature. Dubois and Gadde (2002) term this process systematic combining, in which the theoretical framework, empirical observation and case interpretation develop concurrently and generate further insights. In practice, existing theoretical findings on venture quality signals informed the construction of a data collection template, developed in accordance with Schreier (2012). The template consisted of predefined categories derived from the theoretical framework, against which the empirical material was systematically coded.

2.2 Research Design

This study employs a multiple case study research design combined with qualitative content analysis. A case, in this context, refers to a venture and its associated funding trajectory, in which the given venture constitutes the primary unit of analysis (Yin, 2014). According to Yin (2014), a case study is a suitable research design when the research question seeks to understand a contemporary social phenomenon within its real-world context, over which the researcher has little or no control. This research design is well suited to this study, as it examines how venture quality signals appear across different funding paths, over which no control could be exercised, as campaign designs and investment decisions occurred independently of the study. Additionally, the examined cases received funding between 2016 and 2025, situating the study within a contemporary context.

In contrast to a single-case design, a multiple case study design enables cross-case comparison, thereby strengthening the analytical conclusions through the identification of recurring patterns across cases (Yin, 2014). Five cases were selected through theoretical sampling following Eisenhardt (1989), in which cases were chosen to represent contrasting theoretical categories rather than to achieve statistical representativeness. Instead of choosing companies randomly, cases were deliberately selected to represent variation in funding paths, enabling a comparison of signal patterns across different funding trajectories. Eisenhardt (1989) further highlights that a case study with fewer than four cases risks compromising analytical rigour, as too few cases limit the ability to identify patterns across multiple companies rather than remaining specific to a single case.

The five cases were selected to represent different funding trajectory combinations: two companies that completed an ECF campaign and subsequently received VC funding, one company that raised ECF funding without subsequent VC funding and two companies that received VC funding without prior ECF. All five companies are based in the UK, ensuring a comparable operating environment across cases and reducing the risk that observed differences in signals are attributable to country-level factors rather than characteristics of the company. This comparative structure enables the identification of which signals characterise a successful funding path from ECF to VC, while also capturing variation across cases.

Data were collected from multiple sources for each case. The collected material was then analysed using qualitative content analysis, a method for systematically analysing textual and visual material by identifying and interpreting patterns (Schreier, 2012). A key strength of qualitative content analysis is its applicability to material gathered from external sources, making it particularly suited to this study, in which the data were primarily sourced from crowdfunding platform pages, company websites and LinkedIn profiles. Existing theoretical findings on venture quality signals and VC screening criteria informed the construction of a data collection template. The template included four

sections: a company background, funding trajectory, funding overview and signals. For ventures that received VC funding without prior ECF, the ECF campaign details section was not applicable.

The signal analysis was organised around four overarching categories derived from the theoretical framework: (1) Human Capital, (2) Product & Market, (3) Financial Structure and (4) Social Capital. The coding procedure for each signal category is described in Section 3.4. Signal patterns were subsequently identified across all five cases through cross-case comparison.

2.3 Data Collection

2.3.1 Selection of Case Firms

Following a theoretical sampling approach, five cases were selected to represent variation in funding trajectories. Two cases illustrate the funding path from ECF to VC and are represented by Freetrade and Oddbox. Within this study, these firms serve to identify the successful funding path across both ECF and VC, and act as comparative benchmarks to the other three firms that exhibit either ECF activity or VC funding exclusively. While similarities in findings among Freetrade and Oddbox are expected to emerge, these cases serve as literal replications, defined as cases anticipated to yield comparable results (Yin, 2014). In addition to the firms that received financing through both ECF and VC, Primer and Space Forge are two firms that exclusively received VC funding without any prior ECF, and therefore also serve as literal replications of each other. In contrast, Stratiphy is the only firm that received ECF without subsequent VC investment. While the cases with similar funding paths serve as literal replications, the variation across the three different funding paths; ECF to VC, funding solely through ECF, or solely through VC, provides the theoretical replications (Yin, 2014). In a theoretical replication approach, cases are chosen to capture contrasting results, with these differences anticipated on theoretical grounds or prior propositions. Together, these firms were selected to capture a wide range of funding paths, providing a necessary empirical foundation to address the research question.

Moreover, the UK market has been recurrently recognised as one of the most prominent markets for early-stage ventures seeking external capital through ECF and VC (Walthoff-Borm et al., 2018). Furthermore, two of the largest ECF platforms, Seedrs (now Republic Europe) and Crowdcube, originated in the UK, and the market remains the leading VC landscape in Europe, with total venture investment of £9 billion in 2024, reflecting an increase of 12.5% since 2023 (BVCA, 2025). This positions the UK as a central hub for ECF and VC activity within Europe and served as one criterion when selecting case firms for the study. Accordingly, all case firms are based in the UK and launched their ECF campaigns through either Seedrs or Crowdcube, with the exception of Space Forge and Primer, which received VC funding exclusively and did not conduct an ECF campaign.

In addition to limiting the geographic scope to the UK market, case selection was further restricted by time period. While the investment market is dynamic, the screening criteria were set to include firms founded between 2016 and 2020, with ECF campaigns or VC funding occurring between 2018 and 2025. Restricting the founding years to this period ensures that the case companies were at a similar stage of organisational maturity, making signalling dynamics more comparable across the sample. Furthermore, the requirement for ECF activity or VC funding within the 2018–2025 period enables the study of a contemporary set of events within an evolving market (Yin, 2014).

The final screening criterion to select relevant case firms concerns the industry classification. With five firms operating across three different industries, the study captures variations in both funding history and sector. Stratiphy, Freetrade and Primer represent companies operating within the fintech industry, while representing three different funding paths. Fintech constitutes the primary industry within this study due to its prominent role in the UK market. According to Nguyen and Coyle (2025), the fintech sector has consistently been the strongest sector in the UK to attract VC finance, with \$4 billion in VC investments secured by UK-headquartered fintech startups in 2024. However, to avoid industry-specific bias and enhance the theoretical breadth of the findings, Space Forge and Oddbox were purposely included as they operate in other industries, Space Forge in deep tech and Oddbox in e-commerce. This cross-case variation enables the study to identify possible industry-specific patterns in both commonalities and distinctions, thereby allowing for more nuanced conclusions and a more sophisticated understanding of the phenomena (Eisenhardt, 1989; Yin, 2014).

Table 3: *Overview of Case Firms*

Case firm (Unit of Analysis)	Founded	Industry	Funding type	ECF Campaign Year	VC Funding Year
Oddbox	2016	E-commerce	ECF → VC	2018	2020
Freetrade	2016	Fintech	ECF → VC	2019	2019
Stratiphy	2020	Fintech	ECF	2024	
Space Forge	2018	Deep tech	VC		2025
Primer	2019	Fintech	VC		2020

Note. Data retrieved from (Crunchbase, n.d.-b, n.d.-a, n.d.-c, n.d.-d; Oddbox, n.d.-a)

2.3.2 Secondary Data Collection

This study relies exclusively on publicly available secondary data sources, which is similarly often the case for ECF investors when evaluating ventures prior to investment. Secondary data collection is therefore considered sufficient to fulfil the aim of the study. Accordingly, a wide range of literature has been reviewed, aimed at understanding the underlying mechanisms shaping the observed phenomena of startup financing and situating the study within existing research (Saunders et al., 2009). This includes peer-reviewed articles within the context of ECF and VC (e.g. Ahlers et al., 2015; Signori & Vismara, 2018) and textbooks providing a theoretical grounding for understanding how VC firms operate within the early-stage venture environment (Isaksson et al., 2026; Metrick & Yasuda, 2021). This extensive review of existing literature contributes to the triangulation of the study's empirical findings. Triangulation, as defined by Yin (2014), refers to the establishment of consistency by identifying alignment across different sources. The empirical findings in this study represent a range of signals associated with successful ECF campaigns and relevant criteria for VC screening.

Beyond academic literature, the process of identifying relevant and appropriate firms was conducted through the financial database Crunchbase. Crunchbase is an online platform providing comprehensive data on startups, industry trends, funding trajectories, investor profiles and funding rounds. The platform enables users to apply relevant filters to identify eligible companies in accordance with the selection criteria. In this study, the following criteria were applied: funding path, timeframe, geographical market and industry classification. After identifying five cases that fulfilled the selection criteria, each company was assessed separately.

To collect comprehensive data for each case, each company was assessed across several secondary data sources, including company-specific websites, LinkedIn and publicly available video interviews. Moreover, to collect campaign data such as share size, funding target and number of investors, the ECF campaigns were examined through their respective platforms, including Seedrs and Crowdcube. Additional company-specific information was gathered from company websites, covering company

background, product offering, client base and media coverage. Information regarding founding team composition and individual backgrounds was supplemented by reviews of LinkedIn profiles, focusing primarily on prior work experience and educational background.

2.4 Data Analysis

The data analysis followed three sequential steps: cross-case comparison, pattern matching and enfolding of literature to analyse the coded empirical material and generate findings.

Cross-case comparison forms the primary analytical step of this study. After signals were mapped across each case, they were compared across all five cases to identify recurring patterns and notable differences in signal presence across different funding paths. Confirmed patterns across multiple cases gained higher credibility and reduced the risk of researcher bias (Eisenhardt, 1989).

Pattern matching is a method used to compare empirical observations against the predictions established in the analytical framework (Yin, 2014). In this study, pattern matching involved examining whether the signals identified across the five cases corresponded to what the ECF and VC literature predicted. To enable systematic comparison, each signal was classified according to one of three categories. Binary signals, referring to features a venture either possesses or does not, such as *MBA on the Board* or *Early Professional Backing*, were marked as Present when observed in the empirical material and noted as not observed when not identified. Quantitative signals, such as *Team Size and Board Composition* or *Equity Retention*, were reported as observed values. Subjective signals, where presence must be inferred through interpretive judgement rather than direct observation, such as *Founding Team Quality* or *Market Acceptance*, were noted as consistent with the signal when observed features were interpreted as indications of the signal. Where indicators were weak or lacking, the subjective signal was reported as not observed. This classification enabled a systematic identification of similarities and differences between theoretical expectations and empirical findings (Eisenhardt, 1989).

Enfolding of literature involves comparing empirical findings against existing theoretical frameworks to examine where findings align with or contradict prior research (Eisenhardt, 1989). Where findings align with existing theory, internal validity is strengthened and the understanding of ECF and VC financing mechanisms is deepened. Unaddressed contradictions risk compromising the trustworthiness and validity of the findings. Conversely, contradictions may also present an opportunity to contribute additional insights to existing theory and reduce the risk of false generalisation.

2.5 Validity and Reliability

To ensure the quality and trustworthiness of this research, the study evaluates its scientific quality based on four criteria commonly used in case study research: construct validity, internal validity, external validity and reliability (Yin, 2014). Given the interpretive nature of this study, these criteria are also aligned with qualitative measures of trustworthiness, namely credibility, transferability, dependability and confirmability (Saunders et al., 2009).

2.5.1 Construct Validity – Confirmability

Construct validity concerns whether the study accurately identifies and measures the theoretical concepts it claims to investigate (Yin, 2014). In this study, construct validity is primarily strengthened through data triangulation, which involves using multiple independent sources to cross-verify the same phenomenon (Yin, 2014). Furthermore, the signalling categories are derived from established empirical research on venture quality to further ensure the validity of the concepts. By drawing on multiple independent secondary sources, including crowdfunding platforms, corporate websites and Crunchbase, the identified signals can be validated (Yin, 2014). This multi-source verification reduces the risk of single-source bias and misinterpretation, thereby enhancing the credibility of the findings. Furthermore, grounding the signals in established literature and verifying them through empirical triangulation establishes a clear chain of evidence (Yin, 2014). Every theoretically derived signal is systematically cross-referenced and documented across multiple platforms, which creates a methodological chain. This chain allows external observers to trace the derivation of any conclusion back to the initial research questions and the raw empirical data. This limits subjective misinterpretation and ensures confirmability (Saunders et al., 2009).

2.5.2 Internal Validity – Credibility

Internal validity refers to how well the study's conclusions match the actual data, ensuring that the research provides a true and logical representation of the investigated cases (Yin, 2014). To establish this, the study employs Yin's (2014) concepts of pattern matching and cross-case synthesis. Specifically, pattern matching is conducted by comparing the signals identified, derived from previous literature, in both financing contexts against the empirical success factors from the cases. Furthermore, cross-case synthesis is applied by comparing the signalling dynamics across the five distinct cases. Crucially, Yin (2014) emphasises the importance of addressing rival explanations to ensure internal validity. The inclusion of cases with divergent funding trajectories, such as the firm that solely raised ECF and did not secure subsequent VC funding, acts as a theoretical replication (Yin, 2014). By examining whether the absence of VC funding corresponds to a lack of strong quality signals, this design deliberately tests rival explanations. This demonstrates that the identified success signals are associated with the funding outcomes and are not mere coincidences. By constructing the

study's research in accordance with Yin's standards regarding internal validity, the conclusions and results are grounded in a realistic and unbiased analysis, thereby fulfilling Saunders et al.'s (2009) standards regarding credibility.

2.5.3 External Validity – Transferability

External validity refers to the extent to which the study's findings can be generalised beyond the specific cases examined (Yin, 2014). Given the qualitative nature and the sample size of five cases, statistical generalisation to a broader population is neither possible nor intended (Saunders et al., 2009). Instead, this research relies on analytical generalisation (Yin, 2014). According to Yin (2014), analytical generalisation involves using empirical results to build, expand, or refine broader theory. In this study, analytical generalisation is achieved by relating the theoretical findings to theoretical frameworks such as information asymmetry and signalling theory. Furthermore, these frameworks explain how investors screen early-stage ventures under conditions of uncertainty. To facilitate this, the study provides a thick description of the contextual setting (Saunders et al., 2009). This description includes a detailed account of the UK crowdfunding landscape, the specific dynamics of the ECF platforms and the prevailing investment climate between 2018 and 2025. By detailing the specific environment, with technology-intensive startups in the UK market between 2018 and 2025, this study lays a foundation for the possibility to transfer the observed signalling dynamics to other similar entrepreneurial ecosystems.

2.5.4 Reliability – Dependability

Reliability concerns the transparency and repeatability of the study, ensuring that subsequent researchers following the same procedures would reach similar conclusions (Yin, 2014). To minimise the risk of misinterpretations and biases, the study adhered to a systematic qualitative content analysis procedure (Saunders et al., 2009). This structured approach ensures that the data are treated consistently across all cases, reducing the risk of human error or confirmation bias, whereby researchers might otherwise only perceive information that supports their initial assumptions. By following Yin's (2014) recommendations for robust case studies, a structured case study database was used, meaning all retrieved campaign materials and Crunchbase data were systematically collected. This ensures high dependability by creating an audit trail, allowing observers to verify the research process and ensuring that the findings are grounded in documented evidence rather than subjective interpretations (Saunders et al., 2009). Furthermore, to limit individual interpretation bias, the data extraction was conducted collaboratively. Any discrepancies in signal interpretation were discussed iteratively with reference to the theoretical framework until alignment was established, ensuring a reliable and confirmable analytical process.

2.6 Methodological Delimitations

2.6.1 Sample Size

The study is delimited to a sample of five cases. While this limited number of cases precludes statistical generalisation to the wider population of ECF or VC-funded startups, it is a deliberate choice to prioritise depth over breadth. By focusing on a manageable number of cases, a more detailed analysis of the signalling dynamics within each firm can be conducted, which would not be feasible with a larger dataset. This delimitation further accounts for the inclusion of only one firm operating without VC backing, whereby two firms per funding path would have strengthened the comparability of the results.

2.6.2 Secondary Data

The investigation is further delimited to the use of secondary data. This means that the analysis is restricted to information that was intentionally made public by the firms. A potential limitation of this approach is that it does not capture internal or private information concerning the startups and VC investors. This delimitation is chosen to reflect the perspective of an external market observer which aligns with the information available for the ECF investors at the time of the campaign. However, it should be noted that the VCs have access to more sophisticated tools and data to conduct due diligence, which cannot be fully captured with only secondary data and therefore serves as a delimitation of the study.

2.6.3 Industry

The study is delimited to technology-intensive startups within the industries of fintech (Freetrade, StratiPHY, Primer), e-commerce (Oddbox) and deep tech (Space Forge). These sectors were selected due to their high reliance on external signalling to overcome information asymmetry (Ahlers et al., 2015). Focusing on three sectors allows the study to better isolate the impact of quality signals, as traditional financial data are often insufficient for valuing tech startups. Accordingly, by investigating three companies within fintech, the study serves to avoid the risk of changing two factors simultaneously and yielding misleading results. This ensures that the analysis focuses on signalling as the primary tool for reducing investor uncertainty.

2.6.4 Definition of Subsequent Funding

A key delimitation concerns the definition of subsequent funding. In this study, a successful transition is defined as securing investment from institutional VC firms. This excludes funding from business angels, government grants or additional ECF rounds. This boundary is set to specifically examine the professional screening process of VC firms. Unlike non-professional investors, VCs are expected to apply more rigorous criteria when evaluating the quality of a venture. By focusing exclusively on VC

outcomes, the study can more effectively analyse how the information disclosed during ECF campaigns influences formal, large-scale investment decisions.

2.6.5 Geographical Scope

The geographical scope is limited to the UK and the platforms Crowdcube and Seedrs. This is motivated by the fact that the UK is the largest and most mature ECF market in Europe (Vismara, 2016; Zhang et al., 2023). The maturity of the British ECF market, supported by a sophisticated regulatory framework, provides a robust environment for studying signalling dynamics in a well-developed ecosystem. Furthermore, Crowdcube and Seedrs are two dominant platforms in this market, making them an ideal source of high-quality secondary data on startup campaigns. By focusing on the leading market and its primary platforms, the study ensures that the cases reflect a highly developed investment environment where signalling mechanisms are well-established (Zhang et al., 2023).

2.6.6 Selection of Successful Funding Outcomes

The study is delimited to the funding trajectory from ECF to VC, treating this path as indicative of a successful funding outcome. However, this methodological approach excludes alternative funding paths that may also be considered successful outside the context of this study, such as business angel financing or a trajectory beginning with VC financing followed by ECF. In addition, the study adopts a perspective focused on successful outcomes, excluding factors that may impede the attraction of professional investment. Consequently, the signals discussed focus exclusively on positive indicators and the findings cannot be generalised to the broader financing landscape of early-stage ventures seeking external capital.

3. Results

The following section presents five case studies selected to capture variation in funding trajectories: Cases 1 and 2 (Oddbox and Freetrade) successfully transitioned from ECF to VC; Case 3 (Stratiphy) relied exclusively on ECF; and Cases 4 and 5 (Space Forge and Primer) transitioned directly to VC without ECF. Each case is presented using the same structure, divided into Company Background, Funding Trajectory, Funding Overview and Signals to enable comparison. All signals referenced in the following case studies are described in full in Appendix F.

3.1 Oddbox

3.1.1 Company Background

Oddbox is an online retailer of surplus and cosmetically imperfect fruit and vegetables, based in London. The company's core product is a subscription-based delivery service of fruit and vegetables that would otherwise go to waste within the supply chain (Oddbox, n.d.). The company was founded in 2016 by husband and wife, Deepak Ravindran and Emilie Vanpoperinghe, who had previously held roles in project and team management at global Fortune 500 companies, including 3M, Deutsche Bank and BT Group. According to the ECF campaign listing on Seedrs in 2018, Oddbox's target audience consisted of two distinct Business-to-Consumer (B2C) segments (Oddbox, n.d.). The first segment comprised women aged 30 to 45 with young children and a fixed weekly cooking routine, who reported valuing the convenience of home delivery and the variety of greens they received each week. The second segment consisted of vegan, vegetarian or flexitarian women aged 20 to 30 who wanted to buy sustainable fruit and vegetables but could not afford to pay a premium price. Oddbox's customer base also included a Business-to-Business (B2B) segment where the typical office customer was a startup or small enterprise with 10–250 employees. These customers sought to provide their employees with healthy snacks while at the same time fulfilling their corporate social responsibility commitments by buying surplus produce.

According to the campaign listing on Seedrs, Oddbox was the first company to sell vegetable box subscriptions with surplus produce in the London market (Oddbox, n.d.). The company claimed that it differentiated itself by offering a sustainable product at a price 30% lower than similar box services. The year prior to its ECF campaign, Oddbox achieved 900% year-on-year growth in its home box segment (630 customers) and a 2000% year-on-year growth in its office box segment (43 customers). In 2018, Oddbox launched its first ECF campaign, reaching a monthly revenue run rate of £50 000 in March and having delivered a total of 25 000 boxes to its B2C segment.

The motive behind launching the ECF campaign was to secure funding to support expansion in the London area (Oddbox, n.d.). Specifically, the company aimed to scale its operations through increased marketing efforts, hiring key personnel, expanding operational capacity and improving its technology platform. These initiatives included enhancing social media engagement through influencer marketing and investing in warehouse equipment to improve operational efficiency and packaging processes. In addition, the company aimed to upgrade its website by simplifying the user experience and introducing back-end functionalities to automate purchasing and routing.

With the exception of a £25 000 interest-free loan provided by the founders, Oddbox showed no evidence of existing debt (Oddbox, n.d.-b). This may suggest a limited reliance on bank financing and a preference for raising capital through the ECF market.

3.1.2 Funding Trajectory

During Oddbox's 2018 campaign, the venture exceeded its initial funding target of £350 000 by 48%, raising approximately £520 000 (Oddbox, n.d.-a). Following the campaign, Oddbox continued to grow and realised its initial ambitions to scale its operations across London. In March 2020, 20 months after its first ECF campaign, Mercia's Northern Venture Capital Trust (VCT) Funds announced their £3 million investment in Oddbox (Mercia, 2020). Oddbox also launched three additional funding rounds on Seedrs, in May 2020, September 2021 and most recently in February 2023 (Oddbox, n.d.-a). In August 2021, Burda Principal Investments (BPI) invested £16 million into the venture to further support Oddbox's mission to fight food waste. Amelia Townsend, Principal of BPI, explained the founders' clear and authentic goal to fight food waste, and Oddbox's scalable platform as driving factors for the investment (Mercia, n.d.). Ishaan Chilkoti of Mercia commented that Oddbox had grown rapidly since their investment and remained committed to their mission to expand their service nationwide. Chilkoti added that BPI's funding would enable the Oddbox team to make an even greater impact. In August 2021, Mercia sold 45% of its holdings for £3.5 million, representing a return of 10.9 times the initial investment (Northern Venture Trust PLC, 2021).

Since their first ECF campaign, Oddbox has raised a total of £12.8 million via Seedrs (Oddbox, n.d.-a). The 2023 campaign documented Oddbox's growth from approximately 25 000 total boxes delivered to fewer than 2 000 customers prior to its first ECF campaign in 2018, to over 6 million total boxes delivered, with a subscriber base exceeding 75 000 customers reaching 66% of the UK (Oddbox, 2023).

3.1.3 Funding Overview

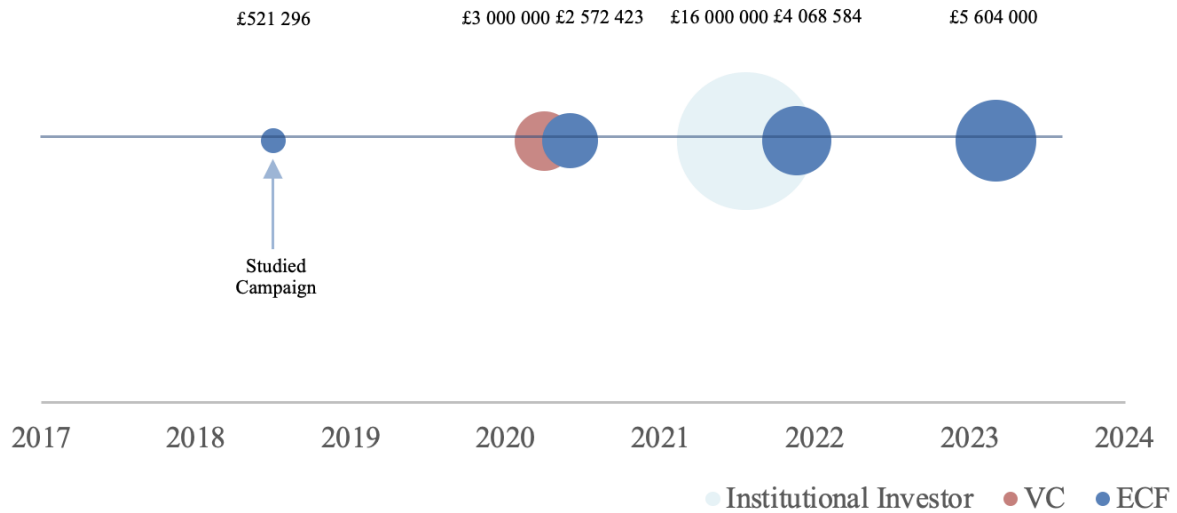


Figure 1: *Oddbox Funding Trajectory 2017–2024.*

Note. This figure was constructed by the authors and illustrates Oddbox’s funding trajectory, including ECF campaigns and institutional rounds. Data retrieved from Mercia (n.d.), Mercia (2020) and Oddbox (n.d.-a).

Table 4: *Oddbox ECF Campaign Overview*

ECF Campaign Details	
Platform	Seedrs (now Republic Europe)
Campaign Year	2018
Funding Target (£)	350 000
Amount Raised (£)	521 926
No. of investors	503
Equity offered (%)	25
Fully funded?	Yes
Overfunding ratio (%)	149
Campaign duration (days)	24

Note. Data retrieved from Oddbox (n.d.-a).

Table 5: *Oddbox VC Investment Overview*

VC Investment Details	
Investor	Mercia
Co. Investor	-
Investment Year	2020
Investment Round	Series A
Amount Raised (£)	3 million

Note. Data retrieved from Mercia (2020).

3.1.4 Signals

3.1.4.1 Human Capital

In terms of *Team Size and Board Composition*, Oddbox's team during the 2018 campaign consisted of five members: Emilie Vanpoperinghe (Co-Founder, CEO and CFO), Deepak Ravindran (Co-Founder, COO), Gavin Phelps (Operations Manager), Maria Bell (Marketing Manager), and Michela Donazzan (Operations and Customer Support) (Oddbox, n.d.-d). The founding team had limited entrepreneurial experience but held strong corporate backgrounds. Deepak Ravindran worked within the investment banking industry at Deutsche Bank, Northern Trust, HSBC and BNP Paribas in various analyst and consulting roles prior to founding Oddbox (Ravindran, n.d.). Emilie Vanpoperinghe held managerial roles at Girl Effect, BT Group and 3M (Vanpoperinghe, n.d.). These previous experiences align with *Financial Experience* within the ECF context and *Founding Team Quality* in the VC context. In terms of *Gender Composition*, the founding team consisted of a husband and wife, resulting in a 50/50 gender split. Neither founder held prior experience within the food retail or sustainability sector, therefore the *Industry-Specific Experience* signal is not observed in this case.

Another signal present in this case is *MBA on the Board*, as Deepak holds an MBA from ICAI Business School. However, this credential was not communicated on the campaign page and was only visible on his LinkedIn profile, while the founders' previous work experience was disclosed on the campaign page. The MBA credential may therefore have had limited practical influence on ECF investor behaviour in this case, despite its theoretical strength.

When Oddbox secured a £3 million investment from the VCT Funds managed by Mercia, the deal announcement published on Mercia's website cited the founders and their vision for the company's future as part of the investment rationale (Mercia, 2020). While the announcement did not provide sufficient detail to assess personality traits directly, the explicit reference to the founders' vision is consistent with *Entrepreneurial Passion and Personal Traits* beyond formal credentials and track record alone.

3.1.4.2 Product & Market

On the campaign page, the founders presented data related to their customer base. The year prior to the campaign, the B2C segment had grown by 900% year-on-year, reaching 630 customers, while the B2B segment had grown by 2 000% year-on-year, reaching 43 office customers (Oddbox, n.d.-b). By March 2018, the company had reached a monthly revenue run rate of £50 000. These figures are consistent with the *Market Traction* signal in the ECF context, as the availability of growth data provided the crowd with evidence of operational progress. From a VC perspective, the same traction data and Oddbox's customer testimonials from the video advertisement on the campaign page are consistent with *Market Acceptance* in the VC context.

In terms of *Business Model Understandability*, Oddbox employs a B2C-centred subscription model. Unlike a B2B offering, a consumer-facing model does not require in-depth industry knowledge to evaluate, as the crowd may themselves be users of the product.

In April 2018, Oddbox won Jellied Eel's Urban Food Heroes Award (Oddbox, n.d.-b), a recognition awarded by an independent publication focused on sustainable and urban food systems. The award represented an external and independent assessment of the venture's social and environmental mission rather than a self-reported claim, and therefore *External Validation – Grants and Awards* in the ECF context.

Oddbox described itself as the first mover on the London market within the imperfect vegetable box subscription-based offering. This claim was self-reported on the campaign page and could not be independently verified. However, the absence of direct competition at the time of the campaign is consistent with the *Proprietary* signal in the VC context. On the campaign page, Oddbox presented the UK fruit and vegetable market as valued at £13 billion, with online sales projected to reach 54% of total market share by 2022, directly corresponding to the signal of *Market Growth, Size and Competition* in the VC context.

No evidence of intellectual property holdings, such as patents or licences, was identified for Oddbox at the time of the campaign. *Intellectual Property* is therefore classified as not observed for this case. Similarly, no evidence of *Innovation and Research Alliances* was identified, and the signal is therefore classified as not observed.

3.1.4.3 Financial Structure

The equity offered in the campaign was 25% of the company. The funding target was £350 000 with a pre-money valuation of £1.6 million, and at the end of the campaign, Oddbox had raised £520 000 in funding. The campaign ultimately reached 148% of its funding target. The signals *Equity Retention*, *Valuation and Share Price*, alongside *Funding Goal and Minimum Investment Threshold* were present

in this case. No evidence of *Financial Transparency and Forecasts* was identified for this case, and the signal is therefore classified as not observed.

No exit strategy was disclosed on the campaign page. From a VC perspective, the absence of any stated exit pathway directly relates to the *Exit Potential and Time Horizon* signal. This may reflect the early stage of the venture at the time of the ECF campaign rather than a deliberate signalling choice. The signal is therefore classified as not observed.

3.1.4.4 Social Capital

A notable Social Capital signal in the Oddbox campaign is the presence of angel investor Andy Wales in the campaign advertisement video (Oddbox, n.d.-b). Andy Wales had previous experience from director-level roles in sustainability and corporate social responsibility at Sainsbury's, BT Group and Accenture (Wales, n.d.). His participation in the campaign video was relevant in both investor contexts. In the ECF setting, such backing from an investor with this profile is consistent with *Early Professional Backing*. In the VC setting, the same endorsement is consistent with the mechanism described under *Syndication and Co-Investor Validation*. The relevance of Wales's endorsement is further reinforced by his domain expertise in sustainability, which is directly aligned with Oddbox's value proposition.

The founders' number of LinkedIn connections at the time of the campaign and early investor momentum figures could not be reliably retrieved given the age of the campaign. *Founder's Social Network Size* alongside *Herding and Early Momentum* are therefore classified as not observed for this case.

The sourcing mechanism for the Mercia investment could not be determined from publicly available sources, *Network-Based Deal Sourcing* is therefore classified as not observed for the VC dimension of this case.

3.2 Freetrade

3.2.1 Company Background

Freetrade was founded in London in 2016 by Adam Dodds, Davide Fioranelli and André Mohamed. Dodds and Fioranelli met while working on the KPMG Financial Services M&A team in London. Both had spent several years at KPMG, Dodds across Canada, the Cayman Islands and the UK and Fioranelli in Italy and the UK, with a shared focus on banking and fintech sectors (Hendelmann, 2022). Upon arriving in the UK, Dodds identified what he described as an oligopoly of established stockbrokers operating a comfortable £12-per-trade commission structure and saw a clear opportunity to disrupt it (Towner, 2020). Mohamed joined shortly after as a co-founder to lead the development of

the technology platform (Freetrade, n.d.-b). The company's founding mission was to democratise investing by making stock market participation more accessible and affordable to the masses.

The product was differentiated in two important ways. First, Freetrade offered commission-free trading, eliminating the fees competitors charged for buying or selling stocks (Freetrade, n.d.-b). This was something new at a time when incumbents charged up to £12 per transaction (O'Hear, 2018). Second, unlike competitors that relied on third-party broker partnerships, Freetrade built its own brokerage infrastructure and obtained full authorisation from the Financial Conduct Authority (FCA), the UK's independent financial regulator, whose authorisation is a legal requirement for any firm dealing with stocks and shares (Financial Conduct Authority, n.d.). This gave Freetrade direct market access and full control over pricing and operations, making Freetrade the first independent challenger in the UK (O'Hear, 2018). Freetrade operates on a freemium model, generating revenue through premium subscriptions, currency conversion fees on trades conducted in currencies other than British pounds and interest on cash held in user accounts (Freetrade, n.d.-b).

By April 2019, the competitive landscape had begun to intensify. Robinhood, the US-based pioneer of commission-free trading, had received regulatory approval for a UK launch. Revolut, a fast-growing challenger bank that had expanded into investment features, was also emerging as an increasingly prominent rival (O'Hear, 2019a). By this point, the leadership team had grown from the original three co-founders to six members (Freetrade, 2019).

3.2.2 Funding Trajectory

Freetrade's growth was from the outset closely tied to ECF. In 2016, the company launched its first ECF campaign on Crowdcube, with a funding target of £100 000 (Freetrade, 2016). As Dodds later reflected, the campaign "grew our community and waiting list by over 60 000 people", indicating that the first campaign helped Freetrade establish an early user base (O'Hear, 2018). Over the following years, Freetrade completed a total of nine Crowdcube campaigns, raising a cumulative of £29.7 million from 33 780 investors (Freetrade, n.d.-b). Many of these investors were also users of the product, Dodds noted that Freetrade's investors did not only contribute with capital, but also generated word of mouth, offered feedback and formed part of the customer base (O'Hear, 2018).

The campaign in May 2018 was an important milestone. Shortly after, Freetrade's app was released to the public, marking Freetrade's official entry into the UK market. This case study focuses on the April 2019 campaign, which raised approximately £1.9 million from 1 360 investors (Freetrade, n.d.-a), including £1.2 million in the first 77 seconds, setting a Crowdcube platform record (Molten Ventures, 2021). This campaign is the one that the VC firm has cited as a driver for its Series A investment decision, pointing to Freetrade's strong community and record-breaking raise.

Following the April 2019 campaign, Freetrade closed a Series A round in October 2019. The round comprised \$7.5 million from Draper Esprit (now Molten Ventures), alongside approximately \$7.5 million raised through ECF campaigns on Crowdcube (O’Hear, 2019b). In March 2021, a \$69 million Series B followed, led by Left Lane Capital with participation from L Catterton and Draper Esprit (Molten Ventures, 2021). Freetrade was ultimately acquired by IG Group in January 2025 for £160 million (IG Group Holdings plc, 2025).

3.2.3 Funding Overview



Figure 2: *Freetrade Funding Trajectory 2016–2026*

Note. This figure was constructed by the authors and illustrates Freetrade’s funding trajectory, including ECF campaigns, institutional rounds and the venture’s exit. Data retrieved from Browne (2025), Freetrade (n.d.-a), Molten Ventures (2021) and O’Hear (2019b).

Table 6: *Fretrade ECF Campaign Overview*

ECF Campaign Details	
Platform	Crowdcube
Campaign Year	2019
Funding Target (£)	1 000 000
Amount Raised (£)	1 927 630
No. of investors	1 360
Equity offered (%)	5
Fully funded?	Yes
Overfunding ratio (%)	193
Campaign duration (days)	Unclear (raised £1.2 million in 77 seconds)

Note. Data retrieved from Fretrade (2019) and Molten Ventures (2021).

Table 7: *Fretrade VC Investment Overview*

VC Investment Details	
Investor	Draper Esprit
Co. Investor	-
Investment Year	2019
Investment Round	Series A
Amount Raised (\$)	7.5 million

Note. Data retrieved from Molten Ventures (2021).

3.2.4 Signals

3.2.4.1 Human Capital

Regarding the signal *Team Size and Board Composition* in the ECF context, the April 2019 campaign presented a leadership team of six members. The team consisted of Adam Dodds (Founder & CEO), Viktor Nebehaj (CMO), Ian Fuller (VP of Engineering), Gemma Happe (Head of Customer Ops), Dan Tedman (Head of Risk and Compliance) and James Storer (Head of Design) (Fretrade, 2019).

Dodds held an Associate Chartered Accountant (ACA) and a Chartered Financial Analyst (CFA) qualification, alongside six years of experience auditing banks and brokerages at KPMG (Fretrade, 2019). Tedman brought over five years of regulatory experience at the FSA and Bank of England, complemented by advisory experience from Alvarez and Marsal (Fretrade, 2019; Tedman, n.d.).

These backgrounds are consistent with *Financial Experience* and *Industry-Specific Experience*. The *Industry-Specific Experience* in this case is attached to institutions with broad reputational salience for a general audience, most notably KPMG and the Bank of England, whose names carry credibility without requiring specialist industry knowledge. Additionally, Viktor Nebehaj holds an MBA from Central European University (Nebehaj, n.d.), and *MBA on the Board*. In terms of *Gender Composition*, the team presented in the campaign consisted of five men and one woman.

Fuller brought prior experience as an engineering manager at leading technology companies including Amazon and Snap Inc., while Happe contributed experience in customer operations and Storer a background in product design. Nebehaj further added experience from scaling Google's core search business in Europe and growing startups across Europe and Asia (Freetrade, 2019). Collectively, these backgrounds are interpreted here as consistent with *Founding Team Quality*, signalling proven operational and technical execution capability. Additionally, Nebehaj's track record of scaling multiple startups may be interpreted as consistent with *Entrepreneurial Passion and Personal Traits*.

3.2.4.2 Product & Market

Freetrade's campaign material reported more than 24 000 active customers with a weekly customer growth of 12% and noted that 30% of the waitlist consisted of prospective customers outside the UK (Freetrade, 2019). A preceding campaign resulted in £3 million raised in a single day at 600% overfunding relative to its funding goal. Together, these indicators position Freetrade as a venture that had moved well beyond the planning phase and into active market operations with a launched product and demonstrated customer uptake. For the non-professional crowd, this is consistent with *Market Traction*. From a VC perspective, the same metrics are consistent with *Market Acceptance*. This is further reflected in the campaign material's description of word-of-mouth as the primary driver of customer growth (Freetrade, 2019), with a large share of crowd investors also functioning as active users of the product, simultaneously acting as capital providers and brand ambassadors (O'Hear, 2018). The organic spread of the product through its own user base is here interpreted as further consistent with *Market Acceptance*.

Freetrade's campaign material describes the offering as a zero-fee investment app operating on a freemium model (Freetrade, 2019). At a time when other industry players in the UK charged up to £12 per trade (O'Hear, 2018), the value proposition of eliminating this cost is tangible and easily understood by a general audience. Moreover, the offering targets a B2C segment. Collectively, these features are interpreted here as indicative of a high level of *Business Model Understandability*.

At the time of the campaign, Freetrade was the first actor in Europe to offer commission-free stock trading through a mobile app with a self-built brokerage infrastructure and an FCA authorisation (O'Hear, 2019b). While FCA authorisation is not proprietary in itself, it was an acquired necessity to legally operate with their self-built infrastructure independently. Together, achieving both required

substantial time, capital and regulatory expertise, making the offering difficult and costly to replicate, consistent with *Proprietary*. Regarding *Market Growth, Size and Competition*, Freetrade, at the time of the campaign, occupied a largely uncontested position in the UK market as first mover in commission-free mobile investing, alongside the planned European expansion signalling global potential.

No evidence of patents or other registered intellectual property rights was identified in the available sources at the time of the campaign, including Crunchbase and searches in Google Patents (Crunchbase, n.d.-a). Therefore, *Intellectual Property* is classified as not observed for this case. No evidence of *External Validation – Grants and Awards* and *Innovation and Research Alliances* was identified for this case, and the signal is therefore classified as not observed.

3.2.4.3 Financial Structure

In the campaign launched in April 2019, Freetrade offered 5% equity, down from 14.5% in the preceding 2018 campaign (Freetrade, 2018, 2019), consistent with *Equity Retention*. The campaign material presents a pre-money valuation of £36 million (Freetrade, 2019), reported as an observed value for *Valuation and Share Price*. However, no data regarding the share price was identified and the share price component is therefore classified as not observed. The campaign also set a minimum investment of £10 and a ceiling of £50 000 per person and the funding goal was £1 million (Freetrade, 2019), mapping onto the signal of *Funding Goal and Minimum Investment Threshold*.

At the time of the campaign, Robinhood had scaled to a billion-dollar valuation in the US market with its commission-free trading model (O’Hear, 2019a), providing an external proof-of-concept for comparable ventures. Taken together with Freetrade’s planned European expansion and the documented international demand (Freetrade, 2019), these observations are interpreted here as consistent with *Exit Potential and Time Horizon*.

No evidence of *Financial Transparency and Forecasts* was identified in the campaign material, and the signal is therefore classified as not observed.

3.2.4.4 Social Capital

The April 2019 campaign raised £1.2 million in 77 seconds, setting a Crowdcube platform record (Molten Ventures, 2021). This opening momentum generated social proof, signalling to subsequent investors that the venture had already been validated by peers. The scale and speed of this opening further suggest a broad and well-mobilised network underpinning the initial phase of the campaign. Taken together, this is consistent with *Herding and Early Momentum*.

Draper Esprit cited this ECF campaign as a factor in their Series A decision (Molten Ventures, 2021). Rather than institutional backing validating the venture to the crowd, as *Early Professional Backing* describes, it was the crowd’s overwhelming response that validated the venture to Draper Esprit. This

represents an inversion of the typical validation direction. This mechanism will be discussed further in the analysis.

No evidence of conventional *Early Professional Backing*, *Syndication and Co-Investor Validation*, *Network-Based Deal Sourcing* or *Founder's Social Network Size* was identified for this case, and the signals are therefore classified as not observed.

3.3 Stratiphy

3.3.1 Company Background

Stratiphy is a personal investment platform that empowers users to own their investment strategy and invest according to their individual principles, goals and objectives (Crunchbase, n.d.-e). As a fintech-based robo-advisory platform, Stratiphy is designed to equip the next generation of investors with the tools needed to make smarter, value-driven decisions. Through comprehensive data and powerful analytics, the platform enables users to invest in a way that is both well-informed and sustainable (Born to be Scaled, 2026).

Stratiphy aims to align with each customer's unique preferences while saving them time, offering historical back-testing features that allow investors to evaluate how their own strategy would have performed over time (Stratiphy, n.d.-a). Established in 2020, the platform provides a flexible AI-powered toolkit that enables users to construct bespoke portfolios. Stratiphy targets two main customer segments (Born to be Scaled, 2026). The first consists of businesses and financial firms, referred to as power users, who already possess strong knowledge of financial markets and competing products. The second segment comprises non-professional investors, such as students and young professionals, typically between the ages of 25 and 35. This group often has more limited investment experience and budget, investing for the first time, and is primarily looking to build a financial buffer for the future. To serve this broad customer base, Stratiphy operates on a freemium model offering three different subscription tiers: Strati-Free (free/lifetime), Starter-Sphere (£9/month) and Strato-Sphere (£19/month) (Stratiphy, n.d.-b).

By continuously monitoring investment signals and managing multi-asset portfolios, Stratiphy balances risk and return through AI-driven optimisation (Stratiphy, n.d.-a). Additional services include cryptocurrency management and a white-labelled investment app featuring personalised portfolio management based on individual investment goals, as well as equity trading and Exchange-Traded Fund (ETF) execution. With a broad and diverse client base, Stratiphy works with clients across multiple sectors including pension funds, family offices, investment managers, hedge funds and retail investment platforms.

The founding team is led by Daniel Gold, currently supported by six additional members, with a focus on investment practices and risk mitigation strategies (Stratiphy, n.d.-c). Gold, together with his team, brings a strong track record in the financial industry, with experience in private equity and banking in London (Born to be Scaled, 2026; Stratiphy, n.d.-c). Drawing on his background in coding and mathematics, Gold founded Stratiphy with the aim of addressing challenges he had personally encountered in investing, achieved by applying the same strategies he identified banks using for their professional clients (FinTech Futures, 2025). Furthermore, his work experience shaped his vision to make sophisticated investment tools more accessible to the broader market, with the core goal of offering a simple, accessible and affordable platform for investors (Born to be Scaled, 2026).

3.3.2 Funding Trajectory

Stratiphy's financing trajectory has been characterised by initial funding from friends and family, followed by four ECF rounds between 2021 and 2025, supplemented by an Innovate UK Grant of £1 million in 2023 and business angel funding of £350 000 in 2024, but without any subsequent VC funding (Born to be Scaled, 2026; Crowdcube, n.d.-a). Across the four campaigns the company has frequently exceeded its initial funding targets, raising a total of £1 185 696, backed by a pool of 1 261 investors.

The firm has consequently sought capital from the crowd. In 2021, its campaign raised £418 879 from 656 investors, aiming to secure FCA authorisation for in-app trading, develop the team, expand the user base and enable social features and commission-free trading (Stratiphy, 2021). By running campaigns almost every year, Stratiphy subsequently raised £263 916 from 200 investors in 2023 and launched a beta version of the app in April 2023, before raising £347 041 from 302 investors in 2024 and receiving FCA authorisation (Stratiphy, 2023, 2024). This illustrates how Stratiphy has leveraged the ECF platform to secure funding by communicating its product vision and anticipated pipeline, while progressively documenting secured milestones and accomplished goals over time.

Following the 2024 campaign, Stratiphy continued to raise funding through ECF and launched its fourth campaign in November 2025, raising £155 859 from 103 investors (Stratiphy, 2025). In contrast to earlier campaigns, Stratiphy reported in 2025 that it was managing portfolios for both a traditional wealth manager and over 1 000 individual app users with total assets under management reaching £3 million from its full app launch in August 2025 to November 2025. During the period from its first ECF campaign in 2021 to its latest in 2025, its pre-money valuation increased from £1.8 million in 2021 to £7 million in 2025, representing a growth of approximately 389% (Crowdcube, n.d.-a). In addition to the ECF rounds and Innovative UK Grant the company also received external funding after the studied campaign in 2024, through a pre-seed investment in August 2024 from the business angel platform FundMyPitch (Crunchbase, n.d.-e).

Beyond the campaign data, Gold explains the difficulty of securing external funding in terms of VC in the UK market (Born to be Scaled, 2026). This has further enabled the company to retain full control over its own direction which may have helped to build a close-knit team and foster resilience and discipline within the organisation.

3.3.3 Funding Overview

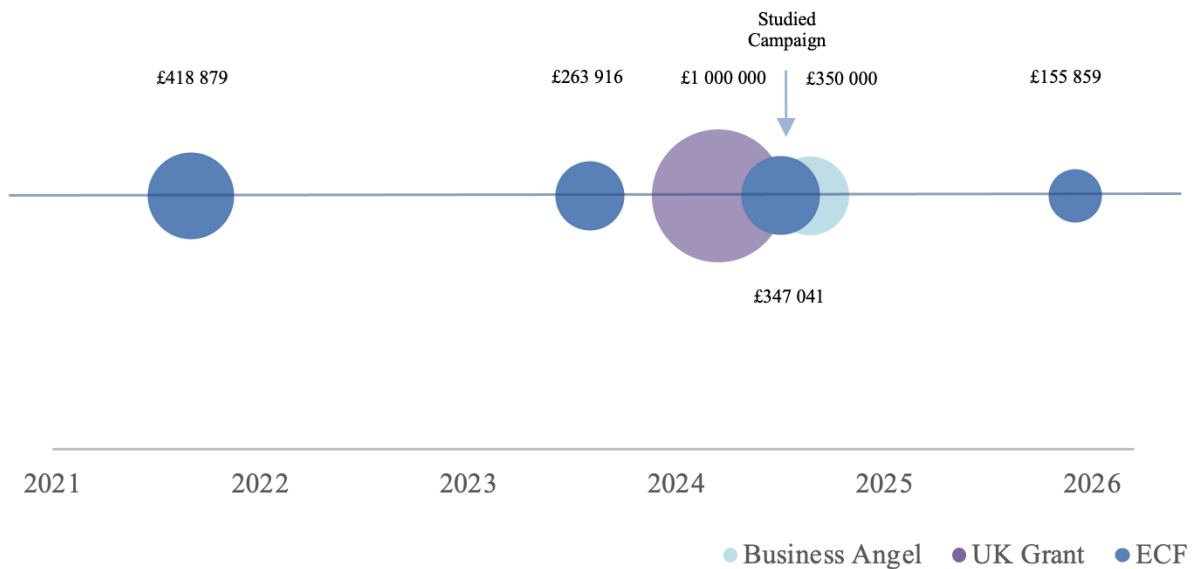


Figure 3: *Stratiphy Funding Trajectory 2021–2026*

Note. This figure was constructed by the authors and illustrates Stratiphy’s funding trajectory, including ECF campaigns, Grant and a business angel investment. Data retrieved from Crunchbase (n.d.-d), Stratiphy (n.d.-a) and Stratiphy (2024).

Table 8: *Stratiphy ECF Campaign Overview*

ECF Campaign Details	
Platform	Crowdcube
Campaign Year	2024
Funding Target (£)	200 600
Amount Raised (£)	347 041
No. of investors	302
Equity offered (%)	7.14
Fully funded?	Yes
Overfunding ratio (%)	173
Campaign duration (days)	Unclear

Note. Data retrieved from Stratiphy (2024).

3.3.4 Signals

3.3.4.1 Human Capital

Concerning the Human Capital signals, both *Industry-Specific Experience* in the ECF context and *Founding Team Quality* in the context of VC are observed in Stratiphy's team. In terms of *Industry-Specific Experience*, Daniel Gold (CEO) holds in addition to his educational background with a degree in Mathematics and a PhD in Algebraic Geometry, entrepreneurial experience within venture building (Gold, n.d.). From a VC perspective, this background aligns with the *Founding Team Quality* signal through its demonstration of industry-specific knowledge and leadership capability.

Complementing this, Nikki Hawkes (Head of Growth) holds a BSc in Economics and Actuarial Science, while also demonstrating experience across multiple startups and a background as a financial analyst (Hawkes, n.d.). As the sole female member of the team, Hawkes also contributes to a diverse team composition, which is reflected in the *Gender Composition* signal in the ECF context.

Concerning the VC context, both Gold and Hawkes demonstrate experience with failed startup initiatives, which in the context of VC may signal resilience and willingness to operate under conditions of uncertainty. This also demonstrates an eagerness to scale the venture and a passion for the entrepreneurial journey, captured in *Entrepreneurial Passion and Personal Traits*. Gold explicitly mentions this theme, referencing the origin of his startup interest as an entrepreneurial spirit inherited from his father, coupled with a motivation to make an impact (Born to be Scaled, 2026).

In the case of Stratiphy, the signals *Industry-Specific Experience* and *Financial Experience* tend to overlap, given that the venture is operating within fintech and the team's domain expertise is directly relevant to the product offering. This overlap is particularly evident in the profile of Enrique Marcilio, who served as Investment Manager during the campaign in 2024 and whose formal education includes a BSc in Economics and Finance (Marcilio, n.d.). Marcilio further strengthens the *Financial Experience* within the team through his prior roles as an Account Executive at CRU and Head of Private Equity at Swoop, alongside holding certifications and licences within finance (e.g. Investment Management certificate and CFA Charterholder). Beyond his professional track record, Marcilio also holds an MBA, which is captured in the signal *MBA on the board* in the ECF context. This financial depth is further consolidated by David Henderson (Compliance Officer), who brings 20 years of experience within fintech to the team (Stratiphy, n.d.-c). Taken together, the growth from a sole founder to a four-member team maps onto *Team Size and Board Composition* signal in the ECF context.

3.3.4.2 Product & Market

Stratiphy has completed four rounds of ECF to raise capital from the crowd. During the 2024 ECF campaign, the app had already been launched on the market, after being highlighted as an upcoming

feature in earlier ECF rounds (Stratiphy, 2023). This constitutes one of the most prominent signals for reducing perceived risk, consistent with *Market Traction* signal, and it further aligns with the *Business Model Understandability*. Since the product is launched on the market, the value proposition is more easily observable to the crowd investors, and uncertainty is drastically lowered in the B2C segment.

In addition, a particularly distinct aspect of ECF for Stratiphy is that funding through ECF provides an effective blend of marketing and funding (Born to be Scaled, 2026). This also makes it easier for the crowd to understand and act upon their own interests, as they may also constitute end-users of the product. This is consistent with *Market Acceptance* in the context of VC, since the investors actively use the product offering.

Moreover, as a fintech venture, Stratiphy presents its personal investment management technology as an asset that also constitutes a core component of its *Intellectual Property* (Stratiphy, 2024). This intellectual property plays a critical role since its competitors adopt a “one-size-fits-all” strategy, which differentiates Stratiphy through its personalised approach. This approach entails that, in contrast to other investment apps offering more generalizable solutions, Stratiphy pursues an individually driven structure, thereby providing clear financial advisory benefits without the cost, time and complexity (Born to be Scaled, 2026; Stratiphy, 2024).

The intellectual property is further consistent with *Proprietary* in the VC context, as it constitutes a core asset for the venture’s uniqueness with its personalised investment approach. Moreover, the *Proprietary* position is further reinforced by Stratiphy’s FCA authorisation, which positioned Stratiphy as the most recently certified retail investment manager at the time of the campaign in 2024. According to Gold, this validation process is characterised by complexity, timing and cost, given that, from a regulatory perspective, it is associated with high risk (Born to be Scaled, 2026). In the case of Stratiphy, this risk concerns the strategy of helping people to invest while at the same time using automation to execute complex investment strategies. Such authorisation thereby creates a significant barrier for competitors seeking to replicate Stratiphy’s regulatory standing.

In Q2 2024, Stratiphy was awarded a grant through the Innovate UK competition, which represents a signal difficult to fabricate due to its third-party validation (Stratiphy, 2024; UK Research and Innovation, n.d.). As an innovation agency, Innovate UK backs the most prominent deep tech businesses in the UK, and Stratiphy secured a £1 million grant designed to develop AI-driven features. This grant status clearly aligns with the signal referring to the *External Validation – Grants and Awards* in the context of ECF.

A dominant signal in the context of VC screening is Stratiphy’s hyper-personalisation approach within personalised investing, positioning the venture as the sole actor on the market offering this proposition at the time of the campaign (Stratiphy, 2024). Furthermore, this is consistent with the *Market Growth, Size and Competition* signal in the VC context. Operating within the fintech industry,

which represents the most prominent VC investment sector in 2024, Stratiphy targets a growing addressable market. In this context, Stratiphy positions itself as a more accessible solution relative to competitors such as Freetrade and Bounds (Born to be Scaled, 2026; Nguyen & Coyle, 2025).

No evidence of *Innovation and Research Alliances* was identified in this case, and the signal is therefore classified as not observed.

3.3.4.3 Financial Structure

The May 2024 ECF campaign marked Stratiphy's third fundraising campaign and was also the third consecutively overfunded campaign (Crowdcube, n.d.-a). With a pre-money valuation of approximately £4.5 million, a total of 302 investors, a funded amount of £347 000 and a share price of £20.13, the campaign resulted in an equity offered of 7.14% (Stratiphy, 2024). This can be compared to the 2023 campaign, where the equity offered reached 8.09%, and the 2025 campaign with 2.18% (Stratiphy, 2023, 2025). This clearly demonstrates that each funding round has resulted in lower equity offered, driven by a steadily increasing pre-money valuation from £3 million in July 2023 to £7 million in November 2025. In addition, Stratiphy offered a two-tiered investment structure in the 2024 campaign, with a minimum of £20.13 for nominee shares and £5 000 for direct shareholding, which, together with pre-money valuation maps onto *Valuation and Share Price* alongside the *Funding Goal and Minimum Investment Threshold* (Stratiphy, 2024). Similarly, the *Equity Retention* signal is captured by 92.86% in the ECF campaign in 2024.

No evidence of *Exit Potential and Time Horizon* or *Financial Transparency and Forecasts* was identified for this case, and the signals are therefore classified as not observed.

3.3.4.4 Social Capital

A relevant aspect related to the *Founder's Social Network Size* concerns Stratiphy's early backing from family and friends during the first three financing rounds, enabling the company to develop the team and hire personnel to complement Gold's own skills (Born to be Scaled, 2026). By seeking capital from his immediate network prior to the first ECF campaign, Gold signals strong belief in his venture and full commitment to its success. However, this network primarily enabled initial financing rather than intentionally generating a pool of potential investor connections, and as no quantifiable data regarding Gold's network at the time of the campaign is available, the signal is classified as not observed.

Furthermore, prior to the 2024 Crowdcube campaign, Stratiphy had already secured £110 219 in off-platform investments, representing approximately one third of the total raised amount. This serves as the *Herding and Early Momentum*, by publicly disclosing that the campaign had secured external financing prior to its launch.

No evidence of *Early Professional Backing*, *Network-Based Deal Sourcing* or *Syndication and Co-Investor Validation* was identified for this case, and the signals are therefore classified as not observed.

3.4 Space Forge

3.4.1 Company Background

Founded in 2018 in Cardiff, UK, by Andrew Bacon (CTO) and Joshua Western (CEO), Space Forge is a deep tech company operating in the aerospace and manufacturing sector (Space Forge, n.d.-a). The venture offers “microgravity as a service” through its proprietary ForgeStar™ platform, which is a reusable and returnable orbital manufacturing vehicle. This technology allows customers in industries such as electronics, pharmaceuticals and advanced alloys to manufacture next-generation materials in low Earth orbit. By leveraging space conditions such as weightlessness and a natural vacuum, the company achieves significantly higher material purity and fewer defects than what is possible on Earth. A milestone in securing this competitive advantage was the granting of a patent in January 2025, following an initial filing in August 2022 (Bacon et al., 2025). This patent protects its unique orbital manufacturing and returns processes.

Both founders bring highly specialised industry expertise to the venture. Andrew Bacon, an electrical engineer, has over a decade of experience in the space industry working on advanced concepts, including future lunar and Martian landing programmes (Bacon, n.d.). Joshua Western complements this technical background with extensive commercial and strategic aerospace experience, having held key roles in business development and national space strategy at organisations such as the UK Space Agency and Thales Alenia Space (Western, n.d.). While operating in the highly differentiated and niche sector of in-space manufacturing, Space Forge faces direct competition from well-funded, US-based rivals such as Varda Space Industries and Redwire Space (Kulu, 2025). However, Space Forge maintains a competitive advantage through its proprietary vehicle design, a specific focus on semiconductors and advanced alloys, as well as its patented technology.

Regarding its financial development, Space Forge bypassed ECF entirely. Instead, the company navigated its early, capital-intensive R&D phases through government grants (Innovate UK) and loans (Development Bank of Wales), alongside early business angel investment from the Bristol Private Equity Club (Crunchbase, n.d.-c). This initial support enabled it to reach technical milestones that attracted a follow-on £7.6 million seed round in 2021, led by the VC firm Type One Ventures. This seed round was notable for its inclusion of specialised industry figures, such as former Virgin Galactic CEO George T. Whitesides. In May 2025, the company secured a record-breaking £22.6 million Series A round, marking the largest Series A in UK space-tech history (Space Forge, 2025). This capital was explicitly raised to accelerate the development of its next-generation returnable

manufacturing satellite, ForgeStar-2, and to support the launch of their first in-orbit demonstration mission, ForgeStar-1. Led by the NATO Innovation Fund, alongside a strategic consortium including World Fund, NSSIF and the British Business Bank, the composition of this investor syndicate highlights the profound strategic implications of Space Forge's technology. Specifically, backing from NATO and NSSIF underscores the geopolitical imperative of securing independent supply chains for advanced semiconductors, while World Fund's involvement validates the significant decarbonisation and energy-saving potential of space-manufactured electronics.

3.4.2 Funding Trajectory

Space Forge's financing trajectory has been characterised by a strategic combination of substantial government grants and VC capital. Founded in late 2018, the venture utilised non-dilutive public funding to validate its core technology before securing subsequent VC rounds to fuel its mission of orbital manufacturing.

The venture's funding history began in mid 2020, securing approximately £600 000 in pre-seed capital through a mix of grants from Innovate UK, a loan from the Development Bank of Wales and angel investment from the Bristol Private Equity Club. This early institutional support was followed by a two-year contract worth €2 million through the European Space Agency's Boost! Programme (Space Forge, 2021). This contract covered critical development stages, including the preliminary and detailed design phases.

Maintaining its funding momentum, Space Forge closed a £7.6 million seed round in December 2021, led by Type One Ventures and World Fund. Furthermore, the venture continued to secure major public funding, including two UK Space Agency grants totalling over £8 million in 2023. This trajectory led to a record-breaking a £22.6 million Series A round led by the NATO Innovation Fund, announced in May 2025.

According to the Confirmation Statement dated 12 December 2024, the total number of shares allotted was 296 580 (Companies House, n.d.-a). The share capital is divided into several classes, including Ordinary shares, Preferred shares, Series seed, A-1 and A-2 Preferred shares. The distribution of Ordinary shares among the founders is 50 000 each. Combined, the founders therefore hold 100 000 Ordinary shares, representing approximately 33% of the total 296 580 shares allotted to the date of the statement.

Post-investment, Space Forge achieved several milestones. Firstly, in June 2025 the company confirmed the successful launch and in-orbit communication with ForgeStar-1, the UK's first in-space manufacturing satellite. Secondly, in October 2025 the company successfully made progress towards scalable orbital return capabilities, through their heat shield validation. Lastly, by December 2025, Space Forge successfully generated plasma aboard ForgeStar-1, a critical step for the orbital

production of high-performance semiconductor materials. Operationally, the venture expanded to both the US and Portugal.

3.4.3 Funding Overview

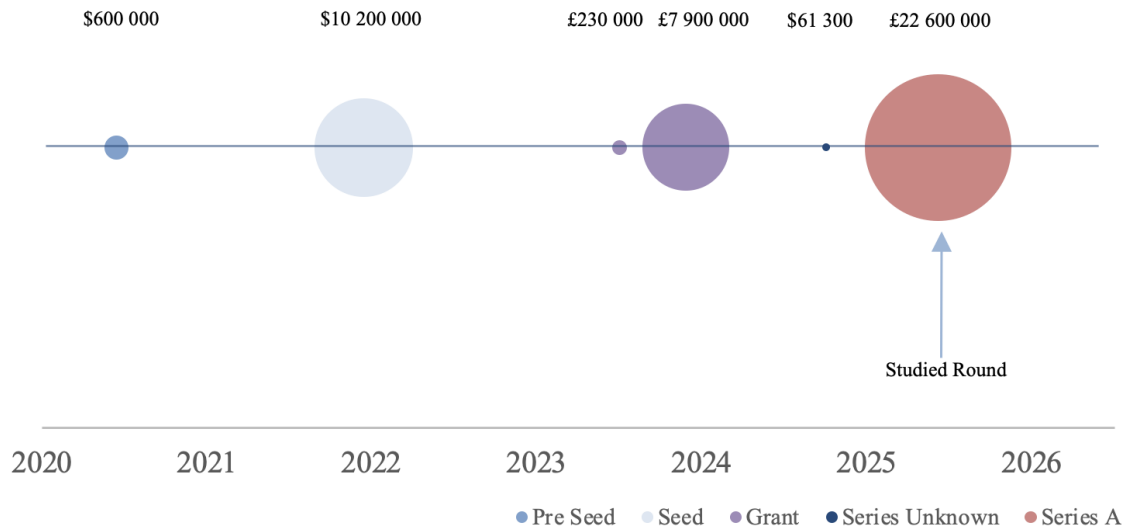


Figure 4: *Space Forge Funding Trajectory 2020–2026*

Note. This figure was constructed by the authors and illustrates Space Forge’s funding trajectory, including institutional rounds and Grant. Data retrieved from Crunchbase (n.d.-b).

Table 9: Space Forge VC Investment Overview

VC Investment Details	
Investor	NATO Innovation Fund
Number of Co. Investors	12
Investment Year	2025
Investment Round	Series A
Amount Raised (£)	22.6 million

Note. Data retrieved from Crunchbase (n.d.-b).

3.4.4 Signals

3.4.4.1 Human Capital

Neither Andrew Bacon nor Joshua Western had prior entrepreneurial experience in terms of founding previous startups. However, the two founders collectively demonstrate *Industry-Specific Experience* and prominent *Founding Team Quality* in terms of technical experience in fields such as business and engineering. Western's background in national space strategy and commercial negotiations signalled strong business and leadership abilities, while Bacon's deep engineering background and his role as Head of Innovation provided the critical technical expertise required (A. Bacon, n.d.; Western, n.d.).

The *Team Size and Board Composition* for Space Forge expanded from the two founders, Andrew Bacon and Joshua Western, to a total of 63 individuals by 2024 (Companies House, n.d.-a). Prior to the Series A round, the board of directors consisted of the two founders and several non-executive directors (Companies House, n.d.-b). In April 2020, Dr. Rodger Sykes and Benedict Olivier were appointed as directors. Following the seed round, Tarek Waked was appointed to the board in December 2021.

A specific observation of the venture's team page (consisting of 22 identified individuals) showed a broader *Gender Composition* (Space Forge, n.d.-b). This subset includes four women, resulting in a female representation of approximately 18%. These individuals occupy technical and operational roles, including manufacturing engineer, heat shield lead, thermal engineer and business support lead. This figure is comparable to the aerospace sector average of approximately 20% (European Union Agency for the Space Programme, 2026).

Financial Experience is primarily substantiated by Western's tenure at Thales, where he managed contracts and documentation exceeding £14 million in value (Western, n.d.). His experience includes financial optimisation through business model implementation, resulting in annual savings of approximately £500 000, and the extraction and presentation of financial data for stakeholders.

Furthermore, Bacon's *Financial Experience* includes the development of client pricing strategies (Bacon, n.d.).

The founders demonstrate a profound and sustained dedication to the aerospace sector, relating to the signal *Entrepreneurial Passion and Personal Traits*. For over four years (2009–2013), Andrew Bacon served as the co-lead for the Near-Earth Object Working Group at the Space Generation Advisory Council (SGAC), a global volunteer network (Space Generation Advisory Council, 2025). During this period, Bacon contributed to a network that represents the voice of young professionals directly to the UN and major space agencies, such as NASA and the UK Space Agency. Furthermore, while maintaining a senior engineering role at Thales, Bacon spent six years (2014–2020) leading “MARSBallon”, a nationwide STEM project designed to launch secondary school experiments into the stratosphere (Bacon, n.d.). This history of voluntary industry contribution suggests a passion for the sector's growth, rather than purely financial motivation.

Joshua Western's passion is showcased by his dedication to the advancement of the space sector (Western, n.d.). Since his initial career placement at the UK Space Agency in 2013, Western has maintained a singular focus on the aerospace industry. His commitment is further demonstrated by his tenure as an Innovation Fellow at Thales Alenia Space, a role that signifies a proactive drive for industry development.

The *Founding Team Quality*, specifically their leadership quality, is not only evidenced by their individual track records but also by their collective ability to scale and govern the venture. Their leadership is demonstrated by the rapid scaling of Space Forge, expanding the team from its two founders to 63 individuals by 2024 (Companies House, n.d.-a).

No evidence of *MBA on the Board* was identified for this case, and the signal is therefore classified as not observed.

3.4.4.2 Product & Market

According to Space Forge's 2020 annual report retrieved from Companies House (Companies House, n.d.-a), the venture capitalised £74 519 in intangible assets, representing an early investment in its patent portfolio. This is further supported by the filing of its core patent in 2022 (granted in 2025) (Bacon et al., 2025), which served as a signal of venture quality and technical defensibility, relating to *Intellectual Property*.

Additionally, *External Validation – Grants and Awards* is substantiated by an Innovate UK grant within the £600 000 pre-seed round and a €2 million ESA Boost! Programme contract. These provided critical third-party validation before the company reached its current scale.

Space Forge's competitive position is defined by its focus on a highly differentiated niche: the production of semiconductors and advanced alloys in microgravity. While the company operates within an industry of approximately 200 companies, such as Varda Space Industries and Redwire Space, it maintains uniqueness through its *Proprietary* vehicle design (Kulu, 2025). This innovation serves as a signal of the venture's market-creating potential, relating to *Market Growth, Size and Competition*.

In terms of *Innovation and Research Alliances*, the venture presented a highly defensible and innovative offering. Space Forge's core proposition, manufacturing next-generation materials in microgravity, demonstrates a high level of technological innovation. Simultaneously, Space Forge has effectively utilised research alliances. Through its close collaboration with the European Space Agency (ESA), specifically through the ESA Business Incubation Centre and the Boost! Programme (European Space Agency, n.d.), the venture was provided with early collaborative funding and technical validation (Space Forge, 2021).

Finally, the venture benefits from the positive sentiment surrounding the new space economy, referring to the growing commercialisation and investment in space-related industries. The segment of in-space manufacturing is projected to be a major driver of the future space economy. Leading investment bank, Morgan Stanley, forecasts that the global space economy will reach \$1 trillion by 2040 (Morgan Stanley, n.d.). This growth serves as a signal to VCs, which shows the market size and growth potential.

Regarding *Market Traction* and *Market Acceptance*; no evidence could be found regarding traditional commercial success in terms of revenue (Companies House, n.d.-a). No revenue data were available, due to the company exercising its right under the Companies Act 2006 to withhold the profit and loss account from public filing. However, the investment led by NATO Innovation Fund and National Security Strategic Investment Fund (NSSIF), underscored a geopolitical imperative. As noted by Daria Saharova, General Partner at World Fund, there is a strategic interest in securing independent, space-based supply chains for advanced semiconductors (Space Forge, 2025). This may suggest that the strategic interest itself validates market demand, functioning as early evidence of market acceptance.

No evidence of *Business Model Understandability* was identified in this case, and the signal is therefore classified as not observed.

3.4.4.3 Financial Structure

The *Equity Retention* of the founders remained significant leading up to the Series A dilution. Bacon and Western each maintained holdings of 50 000 Ordinary shares from 2020 until the Series A round.

This collective ownership represented a controlling interest of approximately 51% of the total share capital (Companies House, n.d.-a).

Furthermore, due to the nature of this case lacking campaigns, no *Financial Transparency and Forecasts*, *Funding Goal and Minimum Investment Threshold* were identified in this case, as well as *Valuation and Share Price*. Therefore, these signals were classified as not observed for this case.

Regarding the *Exit Potential and Time Horizon*, due to the deep tech nature of the aerospace sector, Space Forge's time horizon extends significantly beyond the standard of five to ten years (Vinig & De Haan, 2002). The necessity to secure a £22.6 million Series A round to fund early in-orbit demonstration missions indicates a requirement for future financing rounds before reaching commercial profitability. No evidence of exit potential was identified for this case.

3.4.4.4 Social Capital

External validation was secured through *Early Professional Backing* in the form of loans from the Development Bank of Wales and business angel backing from the Bristol Private Equity Club.

Space Forge's Series A investment was characterised by diverse *Syndication and Co-Investor Validation* of institutional and strategic investors. The round was led by the NATO Innovation Fund and included participation from NSSIF, World Fund, Type One Ventures and others. The composition of this syndicate brought together defence-oriented funds (NATO, NSSIF), sustainability-focused funds (World Fund), and specialised space sectors (Type One) (Crunchbase, n.d.-d).

No evidence of *Network-Based Deal Sourcing* was identified for this case, and the signal is therefore classified as not observed.

Herding and Early Momentum is an entirely absent signal. Space Forge's funding rounds were executed through private channels rather than a public ECF platform, therefore observable metrics associated with retail investor herding, such as early funding velocity, public backer counts or the percentage of the funding goal reached, were inherently non-applicable and absent from the observed data. The signal is therefore classified as not observed for this case.

Furthermore, no evidence of the *Founder's Social Network Size* was identified for this case, and the signal is therefore classified as not observed.

3.5 Primer

3.5.1 Company Background

Primer is a London-based fintech company founded in 2019, operating within the payments infrastructure sector. The founders, Paul Anthony and Gabriel Le Roux, drawing on their previous careers within the payments infrastructure sector, found their customers demanding customisable

payment solutions that were easy to integrate (Le Roux, n.d.-a). Together, they registered the company in December 2019 with the idea of offering an API to unify payment service providers such as PayPal, Klarna and Apple Pay. This allowed merchants to scale their businesses quickly, optimise costs and focus on core product development instead of payment solutions (Companies House, 2019; Le Roux, n.d.-a). Their business quickly advanced, securing a £600 000 pre-seed investment from investors such as Seedcamp only three weeks after registering the company (Crunchbase, n.d.-c).

In an interview, Sia Houchangnia, a partner at Seedcamp, described Anthony and Le Roux's prior experience and "perfect mix of commercial and technical experience" as traits necessary to make the complex problem of payments simple (Seedcamp, 2020). The Primer founders met at the PayPal-owned company Braintree, which is a fintech company providing payment infrastructure and services to merchants (O'Hear, 2020). Between 2018 and 2019, Paul Anthony served as Head of Solution, while Gabriel Le Roux simultaneously worked as Product Owner & Global Business Development Manager (Anthony, n.d.; Le Roux, n.d.-b). Prior to Braintree, Anthony worked for almost seven years at Pay4Later (now Deko), a company offering a consumer finance platform. As the first hired engineer at Pay4Later, Anthony built the platform and worked closely with the CEO to develop the business in its early years. Before leaving the company in 2016, Anthony served as CTO and was part of the management team, contributing to the commercial strategy. Le Roux, on the other hand, started his professional career at Braintree after finishing his bachelor's degree in International Economics Management and Finance at Bocconi University, followed by a master's degree in management at IE Business School. Together, upon founding Primer, Anthony and Le Roux hold a strong blend of technical and commercial knowledge as well as deep experience in the payments industry.

Their experience led them to found Primer, as they observed first-hand how customers of Braintree were dissatisfied with their existing payment solutions (Le Roux, n.d.-a). Merchants typically either purchased full solutions from providers such as PayPal and Stripe, or developed their own systems in-house, both of which had limitations. Buying a full solution from a single provider often proved insufficient, leading merchants to integrate multiple payment service providers (PSP) across different markets. This resulted in limited flexibility, as merchants were constrained to the services provided by a single PSP and had difficulties adapting to regional requirements and end-customer payment preferences. Developing their own systems, however, required merchants to possess in-house technical competence, and few, according to Le Roux, succeeded. The idea behind Primer was to allow merchants to focus on their core product rather than their payment solution, while also enabling them to manage multiple PSPs more efficiently.

To address this market need, Primer built an API-based platform that allows merchants to integrate and manage several payment service providers (PSPs) through a single interface (O'Hear, 2020). Instead of requiring companies to develop separate connections to each PSP, Primer's platform

enables businesses to switch between providers and manage their payment stack without extensive in-house development. Primer presents this solution as the world's first unified payment infrastructure, with the aim of simplifying payments and providing merchants with greater control over their payment processes (Le Roux, n.d.-a). Primer's competitors can be divided into two groups: full-stack payment providers such as Stripe, Adyen, and PayPal, which offer complete payment solutions, and payment orchestration companies such as Spreadly and Gr4vy, which specialise in connecting multiple providers through one integration (6sense, n.d.).

3.5.2 Funding trajectory

Primer's financing trajectory has been characterised by rapid, institutional VC backing from its origin, bypassing the need for early ECF. Founded in late 2019, the company quickly secured a series of escalating funding rounds between 2020 and 2023, raising substantial capital from VC firms and angel investors to fuel its global expansion.

The venture's funding history began merely three weeks after its registration in December 2019 (Companies House, 2019), securing a £600 000 pre-seed round backed by five investors, including the early-stage VC firm Seedcamp and notable angel investors (Crunchbase, n.d.-c). This was rapidly followed by a £3.2 million seed round in May 2020, led by Balderton Capital with participation from Taavet Hinrikus (co-founder of Wise). This early capital injection enabled Primer to develop its API infrastructure and launch an early version of its product by autumn of 2020 (Financial IT, 2020). Maintaining its funding momentum, Primer closed a £12 million Series A round led by Accel in November of the same year (Crunchbase, n.d.-c). These funds were strategically utilised to scale the internal team, which at the time consisted of 23 employees, and to further accelerate product development.

By October 2021, the company had expanded its operations across 20 countries, offering approximately 45 integrations and onboarding prominent customers such as Voi, Ferryhopper and Lime (Lunden, 2021). To sustain this global scaling, Primer secured a significantly larger Series B round of \$50 million, led by the San Francisco-based wealth management and investment firm ICONIQ Growth. This round drove the company's valuation to \$425 million, representing a major growth trajectory within less than two years of operation.

However, the post-investment outcome also reveals the volatility associated with VC trajectories. In 2022, following a period of overexpansion during the Covid-19 e-commerce boom and a subsequent broader market slowdown, Primer announced the layoff of approximately one-third of its workforce (Lunden, 2022). The company also encountered implementation bottlenecks with signed customers, which delayed expected revenue generation. This restructuring was actively aimed at extending the company's financial runway to ensure continued product development. Despite these operational

hurdles, Primer's strong institutional backing and market position allowed it to secure its most recent investment in November 2023 from the Chinese tech conglomerate Tencent (Crunchbase, n.d.-c; Hayward, 2023), although the specific funding amount remains undisclosed.

3.5.3 Funding Overview

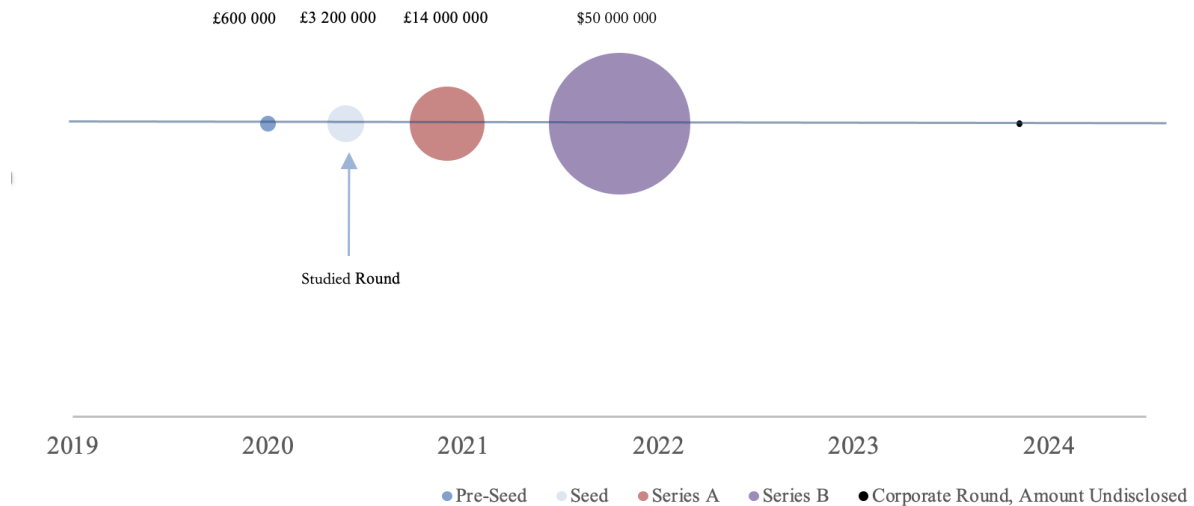


Figure 5: *Primer Funding Trajectory 2019–2024*

Note. This figure was constructed by the authors and illustrates Primer's funding trajectory, including institutional rounds and a corporate round. Data retrieved from Crunchbase (n.d.-b).

Table 10: *Primer VC Investment Overview*

VC Investment Details	
Investor	Balderton Capital
Co. Investor	Taavet Hinrikus
Investment Year	2020
Investment Round	Seed
Amount Raised (£)	3.2 million

Note. Data retrieved from Crunchbase (n.d.-b).

3.5.4 Signals

3.5.4.1 Human Capital

By the time of the May 2020 seed round, Primer's operational team was concentrated, consisting of the two co-founders, Paul Anthony and Gabriel Le Roux (O'Hear, 2020). Regarding the signal *Team Size and Board Composition*, rather than a broad organisational structure, Primer presented a niche

duo. Furthermore, regarding the signal *Industry-Specific Experience*, the founders' professional backgrounds provided Human Capital validation centred around domain-specific knowledge. Co-founder Paul Anthony brought technical leadership, having previously managed complex payment integrations for global merchants such as Uber, Spotify and Airbnb from within PayPal's Braintree, where Gabriel Le Roux also held senior leadership roles (Anthony, n.d.; O'Hear, 2020). Therefore, both founders held senior leadership roles within the broader PayPal ecosystem creating an overlap between *Industry-Specific Experience* and *Financial Experience*, with both signals being present. Furthermore, the *Founding Team Quality* is also present as their professional background was rooted directly in the B2B payment infrastructure sector they aimed to transform, presenting insights into the technical architecture and operational bottlenecks of global enterprises as well as a track record of leadership. The founders' professional histories indicate a corporate background rather than an entrepreneurial one, as neither had independently launched a startup prior to Primer (Anthony, n.d.; Le Roux, n.d.-b). However, Gabriel Le Roux held the position of Head of Startup Growth at Braintree between 2016 and 2018 indicating the presence of *Entrepreneurial Passion and Personal Traits*.

Regarding the signal *MBA on the Board*, COO Gabriel Le Roux holds a Techno MBA in Digital Business (Le Roux, n.d.-b). Finally, regarding *Gender Composition*, the founding team consisted exclusively of two men (O'Hear, 2020).

3.5.4.2 Product & Market

Regarding the signal *Intellectual Property*, searches within the UK Intellectual Property Office (UK IPO) registers indicate that Primer held no formal patents or registered intellectual property at the time of the May 2020 seed round.

During the May 2020 funding round, Primer was strictly in a pre-product development stage (O'Hear, 2020). The initial functional product was not launched until October 2020 (Financial IT, 2020). Consequently, no evidence of *Market Traction* was identified for this case, as there were no documented sales, active user metrics or observable market traction at the time of the investment. Therefore, the signal is classified as not observed.

However, regarding *Market Acceptance*, the founders publicly articulated a documented market gap for customisable payment infrastructure, rather than relying on existing full-stack solutions (Le Roux, n.d.-a). This identified market need had received early institutional validation, evidenced by a £600 000 pre-seed capital injection secured prior to the May round (O'Hear, 2020). Furthermore, the targeted market consisted of merchants who either built infrastructure internally or relied on ready-to-apply full-solution packages from providers such as Braintree (Le Roux, n.d.-a). The founders themselves mention that these full solution packages were rejected by the customers, indicating a need for a different solution. Primer's proposed differentiation focused on the checkout process, offering merchants an adaptable infrastructure rather than a locked ecosystem, directly addressing the

limitations of existing full solution packages (Le Roux, n.d.-a). Primer differentiated its product based on the market and therefore created uniqueness and protection from competition, marking *Proprietary* as a present signal.

Primer's solution targeted merchants and was designed to solve complex payment integrations through a unified API (O'Hear, 2020). As this highly technical system operates entirely in the background of a merchant's checkout process, the end-consumer does not interact with or perceive the underlying technology during a transaction. This reflects a product architecture with inherently low consumer understandability, relating to *Business Model Understandability*.

Industry data confirms the scale of the targeted sector. According to Tan et al. (2025), the broader payments industry represents the most valuable segment within financial services, generating approximately \$2.5 trillion in global revenues driven by \$2.0 quadrillion in underlying value flows. The report specifies that commercial and B2B transactions account for roughly half of these revenues, establishing an addressable market for B2B infrastructure providers such as Primer (Tan et al., 2025). This resonates with the signal *Market Growth, Size and Competition*. Furthermore, the operational necessity of Payment Orchestration Platforms (POPs) is highlighted (PYMNTS & Payoneer, 2021). Data indicate that approximately 15% to 20% of consumers will abandon a purchase if their preferred payment method is unavailable, directly correlating payment flexibility with merchant revenue retention, placing further strength on the importance of such a product on the market.

There were no identified formal corporate partnerships, indicating an absence of research alliances. However, as highlighted by lead investor Balderton Capital, Primer's business model was built on offering a unified API which allows merchants to route transactions seamlessly between already existing providers such as Stripe, Adyen or Braintree (Moffat, 2020). While this necessitated technical integration with the open APIs of these global processors, it did not constitute formal research alliances at the time of funding. The signal *Innovation and Research Alliances* is therefore classified as not observed.

No evidence of *External Validation – Grants and Awards* was identified for this case and is therefore classified as not observed.

3.5.4.3 Financial Structure

Due to the nature of this case lacking campaigns, no *Financial Transparency and Forecasts, Funding Goal and Minimum Investment Threshold, Equity Retention* or *Valuation and Share Price* were identified in this case. Therefore, no evidence on these signals was identified for this case and they are therefore classified as not observed.

At the time of the seed investment in May 2020, Primer had been operating for five months, having been founded in December 2019. No publicly available information regarding *Exit Potential and Time*

Horizon was identified in press releases, articles or other publications, therefore classifying this signal as not observed.

3.5.4.4 Social Capital

The May 2020 Seed round, led by the institutional VC firm Balderton Capital, included direct financial participation from various industry figures. Specifically, the data shows that Taavet Hinrikus, co-founder of the global fintech enterprise TransferWise, participated in the round as an angel investor (O'Hear, 2020). This documents the presence of domain-specific, third-party validation at the time of the capital injection, marking *Syndication and Co-Investor Validation* as present. Furthermore, with the prior pre-seed backing from funds such as Seedcamp, observable evidence of multi-party participation and structural syndication in Primer's early capitalisation is established. *Early Professional Backing* is also present. Before securing the seed investment of £3.2 million in May 2020 Primer had successfully closed a pre-seed round. This round raised £600 000 and was backed by established institutional early-stage investors, specifically naming Seedcamp, Speedinvest and Kima Ventures, alongside undisclosed angel investors (O'Hear, 2020).

Network-Based Deal Sourcing yields a not observed signal for the focal May 2020 investment event. While the timeline between the venture's founding and the £3.2 million Seed round was brief (O'Hear, 2020), the specific origination of the deal with lead investor Balderton Capital is not documented in the reviewed public disclosures. Therefore, no definitive empirical claim can be made regarding the exact sourcing channel. However, for the pre-seed round investor Seedcamp there is documentation of a connection between the owners and this investor as stated by Seedcamp (2020). This indicates some sort of network channel within the industry for the founders.

Herding and Early Momentum is a not observed signal. Because Primer's May 2020 seed round was executed through private institutional channels rather than a public ECF platform, observable metrics associated with retail investor herding, such as early funding velocity, public backer counts, or the percentage of the funding goal reached, were inherently non-applicable and absent from the observed data. Furthermore, the signal *Founder's Social Network Size* is also not observed in this case.

3.6 Signal Overview

Table 11 presents the five cases and their relation to the signals identified in the literature review, enabling a comparison of how the cases aligned and differed in terms of signals. Signals are presented according to their classification. Quantitative signals are reported as observed values. Binary signals, referring to features a venture either possesses or does not, are marked as Present when observed and left blank when not observed. Subjective signals, where the presence of the signal must be inferred through interpretive judgement rather than direct observation, are noted as Indicated when observed features are interpreted as consistent with the signal and left blank where such features were weak or not observed.

3. Results

Table 11: Signal Summary

Signal	Context	Oddbox	Freetrade	Stratiphy	Space Forge	Primer
1. Human Capital						
MBA on the Board	ECF	Present	Present	Present		Present
Financial Experience	ECF	Present	Present	Present	Present	Present
Industry-Specific Experience	ECF		Present	Present	Present	Present
Team Size and Board Composition	ECF	5	6	4	2	2
Gender Composition (M/F) %	ECF	50/50	84/16	75/25	82/18	100/0
Founding Team Quality	VC	Indicated	Indicated	Indicated	Indicated	Indicated
Entrepreneurial Passion and Personal Traits	VC	Indicated	Indicated	Indicated	Indicated	Indicated
2. Product & Market						
Intellectual Property	ECF			Present	Present	
External Validation – Grants and Awards	ECF	Present		Present	Present	
Market Traction	ECF	Indicated	Indicated	Indicated		
Business Model Understandability	ECF	Present	Present	Present		
Proprietary	VC	Indicated	Indicated	Indicated	Indicated	Indicated
Innovation and Research Alliances	VC				Indicated	
Market Growth, Size and Competition	VC	Indicated	Indicated	Indicated	Indicated	Indicated
Market Acceptance	VC	Indicated	Indicated	Indicated	Indicated	Indicated
3. Financial Structure						
Equity Retention	ECF	25% offered	5 % offered	7% offered		
Valuation and Share Price	ECF	£1.6m	£36m	£4.5m, £20.1		
Financial Transparency and Forecasts	ECF					
Funding Goal and Minimum Investment Threshold	ECF	£350 000	£1 million, £10	£200 000, £20.13		
Exit Potential and Time Horizon	VC		Indicated			
4. Social Capital						
Early Professional Backing	ECF	Present		Present	Present	Present
Founder's Social Network Size	ECF					
Herding and Early Momentum	ECF		Indicated	Indicated		
Network-based Deal Sourcing	VC					
Syndication and Co-Investor Validation	VC				Indicated	Indicated

Note. No Share Price was observed in either the Freetrade or Oddbox case, therefore only the pre-money valuation is reported. No Minimum Investment Threshold was observed in the Oddbox, therefore only Funding Goal is reported.

4. Analysis

This section presents an analysis of the selected ventures to address the core research question: Which signals of venture quality are associated with successful outcomes across both ECF and VC financing contexts?

By synthesising empirical findings from ventures with diverse funding trajectories, this analysis examines how signals are interpreted and utilised by different investor groups. Rather than seeking statistically generalisable results, the primary objective is to identify thematic patterns and analytical observations that provide a deeper understanding of signal dynamics across these two investment contexts.

4.1 Signals Relevant Across Both ECF and VC

Across all analysed cases, signals within the Human Capital category were identified as prominent factors in investment outcomes. While the **expertise of the founding team** was consistently utilised to mitigate perceived execution risk, understood as uncertainty regarding the venture's ability to execute its business plan, the specific significance of these signals varied. The empirical findings from these cases indicate that signal fit and signal ambiguity may influence how different investor groups process the founders' backgrounds, leading to a variation in signal interpretation between ECF and VC investors.

In the context of ECF, as exemplified by Freetrade and Oddbox, investors tend to give precedence to the founding team's professional background as an indicator of general expertise. High-profile credentials from globally recognised institutions or corporations, such as the Bank of England and KPMG (Freetrade), or 3M and Deutsche Bank (Oddbox), serve as low-ambiguity signals of credibility. This is due to the prestige associated with these institutions, which may carry immediate reputational weight for a general audience. For non-professional investors, these indicators mitigate perceived risk by providing assurance that the founders of both Freetrade and Oddbox have the necessary financial experience to operationalise a business, even if the investor lacks the technical literacy to fully evaluate the underlying technology of the venture. This aligns with the empirical findings of Piva & Rossi-Lamastra (2018), who state that financial competence is effectively communicated to a general audience, thereby acting as a positive signal regarding *Financial Experience*.

While the operational scaling experience of Nebhaj (Freetrade) at Google constitutes a professional credential from a globally recognised company, it likely carried less interpretive weight for the crowd due to high signal ambiguity. For a non-professional investor, the link between scaling a core business at a tech giant and establishing a regulated brokerage may not be immediately apparent. Conversely, for the VC firm Draper Esprit, which invested in Freetrade, the same experience likely signalled proven leadership capacity and the ability to scale operations rapidly. This aligns with the signal *Founding Team Quality*, which argues that founders' track records, leadership abilities, and specific industry knowledge serve as a positive signal (Jang & Kaplan, 2025; Robb & Robinson, 2014; Vinig & De Haan, 2002). Consequently, the same team was therefore likely interpreted quite differently by ECF and VC investors, not because the underlying quality differed, but because the capacity to process and interpret the signals did.

For VC investors, founding teams are evaluated according to the parameters of *Founding Team Quality* and specialised proficiency. In the cases of Primer and Space Forge, the founders' backgrounds provided more than generic professional credibility; their *Industry-Specific Experience* and *Financial Experience* exhibited a high degree of signal fit. These attributes functioned as specialised signals of venture quality, directly addressing the technical and operational complexities inherent in their respective sectors.

In the case of Primer, the VC firm seems to prioritise the founders' experience with Braintree's infrastructure over a traditional entrepreneurial track record. Similarly, Space Forge's synergy of technical and strategic aerospace expertise may have acted as a proxy for the capacity to achieve long-term milestones. It is demonstrated that a team with the appropriate experience can function as a proxy for execution ability, even in the absence of a launched product. While these signals had a high signal fit, regarding the founders' mission, they simultaneously exhibit high signal ambiguity for investors who lack the technical proficiency to fully grasp the industry-specific challenges. This aligns with the findings of Barbi and Mattioli (2019) and Piva & Rossi-Lamastra (2018), who argue that deep sector knowledge is valuable, albeit almost exclusively for VCs. Ultimately, the findings suggest that VCs favour high signal fit, leveraging their professional capacity to manage high signal ambiguity, rather than requiring the simplicity of a business model.

Beyond the signals within Human Capital, the evaluation of venture viability extends to the signals regarding Product & Market. While empirical evidence varied across the different cases, a fundamental requirement for every case emerged: **demonstrated demand**. This is represented by *Market Traction* and *Market Acceptance*, which constitute two overlapping signals across both ECF and VC. Freetrade, Oddbox and Stratiphy indicated this through documented consumer adoption. The three ventures maintained an active product in the market concurrently with their respective funding campaigns. In all three cases, data regarding user growth and historical performance functioned as

effective risk-reduction mechanisms, providing *Market Traction* that the non-professional crowd could easily interpret. This represents a clear connection to the existing literature, specifically confirming Nose and Hosomi's (2023) findings regarding *Market Traction*. Their research shows that the presence of an already launched product or service increases the probability of reaching the funding goal, as it provides tangible proof of concept.

Conversely, in the case of Primer, a demonstrated demand was indicated through the founders' qualitative observations of merchant rejections at Braintree. This was further strengthened in the case of Space Forge, where the geopolitical necessity of independent semiconductor supply chains acted as an indicator of market demand. Concurrently, these metrics may have provided VC investors with the necessary evidence of *Market Acceptance* to mitigate cash-out risk, which aligns with the findings of Jang and Kaplan (2025). Ultimately, while both ECF and VC investors screen for market demand, a divergence in evidentiary requirements is observed: ECF investors may demand historical proof in the form of *Market Traction*, whereas VC investors seem to accept strategic or qualitative proof of *Market Acceptance*.

Another significant finding across the analysed cases involves the signals within Social Capital. Regardless of the financing context, the empirical findings suggest that early-stage ventures cannot effectively bridge information asymmetry solely through internal claims. Consequently, **third-party validation** from external sources emerges as an influential factor in the investment decisions of both investor groups. However, while the need for validation applies to both ECF and VC, the specific source of this validation shifts to match the respective investor audience.

In the VC context, validation is derived from network connections and strategic consensus. Primer, for instance, successfully leveraged the certification of an industry-leading operator-angel (Taavet Hinrikus) and previous VC backing (Seedcamp) to secure its Seed round. Similarly, Space Forge utilised strategic alliances with space agencies (ESA) and geopolitical defence funds (NATO Innovation Fund), to signal a level of technical validation that traditional financial metrics often fail to capture. This aligns with *Syndication and Co-Investor Validation*, where Jang and Kaplan (2025) state that syndicated deals and co-investor validation increase the chance of survival and venture success.

Conversely, in the ECF context, where the crowd often lacks access to professional networks, validation may take the form of regulatory stamps or accessible industry experts. In the case of Stratiphy, the venture relied heavily on unbiased institutional approval. Through its Innovate UK grant, it may have signalled security to investors, thereby confirming the utility of the signal *External Validation – Grants and Awards* (Ralcheva & Roosenboom, 2020). Similarly, Oddbox exemplified how a single domain expert (Andy Wales) may have acted as a proxy for the crowd. This indicates that the venture underwent rigorous professional due diligence prior to its public launch, aligning with

the signal of *Early Professional Backing* (Ralcheva & Roosenboom, 2020). Furthermore, the FCA authorisation for Freetrade and Stratiphy may have worked as an additional indicator of third-party validation.

In summary, the **expertise of the founding team**, **demonstrated demand**, and **third-party validation** emerge as three overlapping factors relevant across ECF and VC investment. While these are prominent in both contexts, their interpretation diverges as each investor group utilises different analytical tools to assess signal fit and navigate signal ambiguity.

4.2 Signals Prominent in ECF

Within the ECF context, signals related to the clarity and accessibility of the business model take precedence, where *Business Model Understandability* emerges as a determinant for success in ECF. However, this was not identified in the VC context. This divergence is largely attributed to the fact that VCs utilise more sophisticated analytical tools and specific industry knowledge, reducing their reliance on simplicity. Consequently, the cases with ECF (Oddbox, Freetrade, and Stratiphy) all featured business models with low cognitive barriers, allowing the consumers and non-professionals to readily comprehend and participate in the venture. These observations corroborate the findings of Razan and Widyastuti (2022) who documented *Business Model Understandability* as a success factor.

Conversely, *Business Model Understandability* was absent in the VC-backed cases (Primer and Space Forge). Their respective focuses on deep tech and B2B infrastructure are characterised by high technical abstraction, which may make their value propositions less accessible to a non-specialist audience. Specifically, Space Forge's aerospace engineering and Primer's payment infrastructure represent complex systems that may require specialised industry knowledge and technical proficiency to evaluate. This creates an information gap for the crowd, whereas VC investors typically hold the necessary expertise to perform rigorous due diligence on such B2B-facing technologies.

Furthermore, *Equity Retention* and *Minimum Investment Threshold* are relevant for the crowd. Low entry barriers may enable easier investment participation, while equity retention serves as a signal of founder commitment. However, a direct cross-case comparison with VC may not be applicable in this regard. In the VC context, these signals lack a direct equivalent. Equity stakes are negotiated privately rather than utilised as public signals, and minimum thresholds hold no relevance for VCs. The same applies to *Financial Transparency and Forecasts*, *Funding Goal* and *Minimum Investment Threshold*, as well as *Valuation and Share Price*. Consequently, while these signals are vital for managing ECF campaigns, they hold no analytical weight in VC screening processes. This corroborates the findings of Jang and Kaplan (2025) who found that Financial Structure typically comes second to signals within Human Capital and Product & Market.

A dominant pattern across the cases is the necessity of *Market Traction* for ECF success. Oddbox, Freetrade, and Stratiphy all presented tangible, historically grounded metrics, such as documented sales and live products, to mitigate the crowd's information asymmetry. This confirms the findings of Nose and Hosomi (2023) who argue that a live product corresponds to funding success.

To conclude the ECF analysis, it is worth noting that the signals *MBA on the Board*, *Gender Composition*, *Team Size and Board Composition*, *Intellectual Property* did not emerge as decisive factors across the cases. Given the consumer-oriented nature of the ECF context, the crowd seemed to prioritise other factors such as clear market traction and easily understandable business models. Furthermore, *Herding and Early Momentum*, even though important in the case of Freetrade, is not included in this cross-case analysis. This signal is not generally decisive across the cases and therefore not viable for a cross-case analysis.

4.3 Signals Prominent in VC

Within the VC context, evidence reveals a compensatory interplay between different quality signals. When market traction is absent, given that there are indicators of demonstrated demand, VC investors require strong proxies for execution capability. Both Primer and Space Forge demonstrated this through their founders' niche industry-specific experience (PayPal/Braintree architecture and Space/Defense engineering). In these cases, *Industry-Specific Experience* may have replaced the need for an existing product or an entrepreneurial background. This adds to the findings of Barbi & Mattioli (2019) and Piva & Rossi-Lamastra (2018), who state how industry-specific knowledge and domain expertise are valuable for professional investors.

The VC context is characterised by a high reliance on external validation and signals within Social Capital, where factors such as syndication and network-based referrals serve as quality signals. This process follows a clear underlying logic: a syndicated and co-invested round mitigates individual risk and indicates that multiple professional parties have conducted independent due diligence and reached a positive consensus. This dynamic suggests a "hierarchy of validation" in VC screening. Formal regulatory or state-level signals, such as Stratiphy's FCA authorisation and Innovate UK grant, appear insufficient without the accompanying weight of Social Capital and co-investor signals.

The cases of Primer and Space Forge exemplify this hierarchy, where Primer lacked a product but secured VC funding possibly due to the involvement of business angel Taavet Hinrikus and previous backing from Seedcamp. Similarly, Space Forge benefited from a diverse and prestigious syndicate of co-investors, providing strong validation. Consequently, Stratiphy's inability to attract VC funding may be linked to a lack of institutional network referrals, unlike Primer and Space Forge. The two ventures respectively had established connections to major stakeholders like PayPal or national space

agencies, confirming the findings of Gompers et al. (2020) and Jang & Kaplan (2025) regarding *Syndication & Co-Investor Validation*.

Another pattern across the cases is the necessity of *Market Growth, Size and Competition* as signals for VC investment. The cases of Space Forge and Primer demonstrate that when *Market Traction* is absent, specifically because of the lack of a live product, VC investors prioritise the magnitude of the addressable market and the venture's potential to capture it. For instance, Space Forge operates within the broader commercial space economy, which is projected to reach \$1 trillion by 2040 (Morgan Stanley, n.d.), further supported by Primer, which operates within a global payment industry generating \$2.5 trillion in revenues. In these instances, market size and growth function as a signal of potential, which may compensate for a lack of current sales by highlighting a path toward massive future returns, resonating with *Market Growth, Size and Competition* (Vinig & De Haan, 2002).

This emphasis on scalability is further confirmed by the trajectories of Oddbox and Freetrade, where initial ECF funding was utilised specifically to demonstrate or accelerate operational growth. Oddbox leveraged its ECF campaign success to scale operations nationwide. Similarly, Freetrade utilised its record-breaking ECF campaign, raising £1.2 million in 77 seconds, as a direct signal of mass *Market Acceptance*, proving its ability to scale rapidly.

In contrast, Stratiphy's inability to attract VC investment may be linked to a significant divergence in the scale of its market traction and perceived scalability. While Stratiphy shares the characteristic of having a live product and a dedicated investor base of 1 261 individuals, the momentum of this traction may have remained below the threshold required to indicate a credible path to expansion, which further strengthens Vinig and De Haan's (2002) findings regarding *Market Growth, Size and Competition*. Ultimately, the findings suggest that for VCs, the size and growth potential of the market are paramount. Without clear evidence of a venture's ability to reach large scale, even successful ECF outcomes and formal validation may be insufficient to secure VC interest.

While ECF campaigns often succeed based on strong branding, community building, and operational execution (as seen with Oddbox and Freetrade), the VC context demands structural defensibility. Both Space Forge and Primer hold strong proprietary signals despite lacking an actual product on the market. Space Forge secured patents for its orbital manufacturing, while Primer offered a highly differentiated API architecture in a market dominated by locked ecosystems. This strengthens the claims of Vinig and De Haan (2002) and Hoenig and Henkel (2015) regarding *Proprietary*. This suggests that VCs may require evidence of technological or architectural defensibility to justify the high risk of a pre-product investment, whereas the crowd is more willing to invest in business models if they show strong current sales.

To conclude the VC analysis, it is worth noting that the signals *Entrepreneurial Passion and Personal Traits, Innovation and Research Alliances, Exit Potential and Time Horizon, Founders' Social Network Size, and Network-Based Deal Sourcing* are not discussed. A lack of consistent presence, coupled with the inherent subjectivity and impact of these signals across the studied cases, results in unsuitability for the cross-case analysis. Given the professional and highly analytical nature of the VC context, investors generally, in these cases, seemed to prioritise other factors such as industry-specific experience, market scalability, and proprietary defensibility.

4.4 ECF Campaign as a Possible Signal Proxy to VC

The findings across the observed cases indicate that specific elements within an ECF campaign may function as signal proxies to subsequent VC investors, revealing characteristics of venture quality through campaign performance. This pattern is predominantly observed in Freetrade's case and partly in Stratiphy's. Space Forge and Primer, which both bypassed ECF, offer no basis for observing this mechanism. While Oddbox shares a similar financing trajectory to Freetrade, there is no explicit confirmation of a direct link between campaign performance and the subsequent VC investment. Rather, Mercia communicated that their investment decision was influenced by Oddbox's rapid growth. This growth was likely enabled by the capital raised through the ECF campaign, which allowed Oddbox to realise its initial ambitions to scale their operations. In this case, it was therefore not the live campaign's performance itself that signalled venture quality to the institutional investor, but the operational outcomes that the crowd's capital enabled. It should be noted that the pattern discussed further down rests primarily on Freetrade, and the observations presented in this section should therefore be treated as exploratory rather than conclusive.

Freetrade's April 2019 campaign, which raised £1.2 million in 77 seconds, illustrates an example of how an ECF campaign revealed venture quality. The scale and speed of this response constitute a form of social proof, where many independent individuals commit capital simultaneously. This signals broad conviction for the venture's value proposition, which in this case is interpreted as indicative of *Market Acceptance* by a VC investor. Draper Esprit cited Freetrade's campaign in April 2019 as influential for their Series A investment decision (Molten Ventures, 2021), suggesting that these campaign elements were legible and convincing to the institutional investor. This aligns with Roma et al. (2021), who suggest that crowdfunding may function as a form of certification for unobserved quality. In Freetrade's case, the unobserved quality that the campaign revealed was the venture's capacity to generate mass market validation at scale and speed, a characteristic that is difficult to communicate through financial metrics or campaign material alone.

A further observation is that both Freetrade and Stratiphy appear to have used ECF not only as a financing tool but also as a strategic instrument for building their companies. Freetrade's campaign

material explicitly describes investors' word-of-mouth as its main driver of customer growth (Freetrade, 2019), while Stratiphy describes its ECF model as an effective blend between marketing and funding (Born to be Scaled, 2026). In both cases, given that a large share of the investors were also users of the product, ECF may have served a dual purpose, generating capital while simultaneously building the community and traction data that contributed to the venture's signal profile. What distinguishes the cases is not the intent behind the strategic use of ECF but the magnitude of the metrics this strategy produced. In Freetrade's case, their community grew to 24 000 active customers with 12% weekly growth at the time of the April 2019 campaign (Freetrade, 2019). Stratiphy, while building a dedicated community of 1 261 investors across four campaigns, does not appear to have generated traction data of sufficient scale to signal legibility to institutional investors (Crowdcube, n.d.-a).

This dual function suggests that ECF may carry strategic implications beyond its immediate capital-raising purpose. If ECF campaign elements can make venture quality visible to professional investors, as suggested in Freetrade's case, then ventures that actively use ECF as a community-building tool may simultaneously generate observable indicators of quality that institutional investors evaluate, such as *Market Acceptance*. This suggests that ECF could have functioned strategically, not only for community-building but also as a mechanism for signaling quality to subsequent VC investors in this case.

This perspective offers partial evidence against Walthoff-Borm et al. (2018) on two levels. Firstly, Walthoff-Borm et al. (2018) characterised ECF as a last resort for ventures unable to attract traditional capital. This does not hold for Freetrade, which appears to have chosen ECF actively as a strategic instrument. Stratiphy presents a more ambiguous case. While ECF was also used strategically, the absence of subsequent VC investment raises the question of whether this strategy produced signals of sufficient strength to attract subsequent professional investors. Secondly, the authors express concern that ECF may fail to provide the type of quality certification associated with professional early-stage backing. This is challenged by Freetrade's case, where the ECF campaign did not merely certify venture quality to the VC firm Draper Esprit, but generated signals strong enough to directly contribute to their investment decision.

Taken together, the pattern observed across these cases suggests that ECF can serve as more than a financing tool, functioning simultaneously as a brand-building driver and a signalling instrument that makes venture quality visible to institutional investors. These observations are, however, based on a very small sample. Whether this pattern extends beyond the cases observed here, and under what conditions it might emerge, represents an interesting direction for future research.

4.5 Future Research

To draw more general conclusions, future research may examine a larger sample of companies following the funding trajectories of Oddbox and Freetrade across different industries. Furthermore, the case of Space Forge reveals a signal not previously detailed in the literature: the geopolitical imperative. In today's global climate, the need to secure independent supply chains for critical technologies, such as semiconductors, may act as a decisive investment driver. Researching the relevance of such strategic signals would be highly valuable. Additionally, longitudinal studies could investigate how fragmented ECF ownership structures affect ventures' ability to achieve successful exits over time. Furthermore, this study operates under the assumption that the absence of ECF or VC financing is indicative of an unsuccessful funding outcome for companies seeking such investment. In practice, however, firms may strategically abstain from these channels for various reasons. To strengthen the validity of future conclusions, further research could examine companies that actively sought VC or ECF funding but were unsuccessful in securing it.

5. Conclusion

The analysis reveals that three overarching domains of signals, namely **expertise in the founding team, demonstrated demand, and third-party validation**, overlap across both funding contexts. However, the interpretation of a high-quality signal shifts depending on the context. In the ECF context, successful outcomes are associated with signals that have low ambiguity and high cognitive accessibility for crowd investors. The crowd seems to rely on market traction, such as documented sales or live products, easily understandable business models, and validation from recognisable institutions. Furthermore, founders' backgrounds are evaluated for general professional safety rather than niche technical expertise. In the VC context, successful investments are associated with structural scale and professional validation. Professional investors hold the tools for rigorous due diligence, and therefore seem to screen for large market sizes, scalability, and proprietary defensibility. Validation tends to come from network-based referrals and syndication. Human Capital is evaluated based on high signal fit, as VCs seem to seek industry-specific expertise that directly addresses complex, domain-specific problems rather than broad entrepreneurial experience.

Another finding of this study is the compensatory nature between signals. In the pure VC cases, the absence of market traction, a typically prioritised signal in the ECF context, did not prevent successful funding. Instead, alternative signals may have compensated for the lack of empirical sales data, indicating why professional investors do not seem to prioritise market traction. Signals such as industry-specific experience, network syndication (such as BAs), patents, and market growth projections may be prioritised screening criteria for VCs as they hint toward execution capability and future potential. This indicates that VC investors are willing to bypass historical proof in favour of signals of future scalability and market potential, whereas the ECF crowd seems to demand tangible, historical evidence to mitigate risk.

Finally, the findings partially challenge the perception of ECF as a last resort for ventures unable to secure traditional professional capital. The trajectory of Freetrade indicates how such campaigns may work as a signal of quality for subsequent VC funding, rather than signalling professional rejection. By choosing ECF as a strategic instrument to unite customers and investors, ventures can generate observable data regarding community strength, early momentum, and herding behaviour. When an ECF campaign achieves substantial scale, such as raising capital in a matter of seconds, it can effectively translate retail enthusiasm into legible signals of quality, thereby indicating market acceptance. Consequently, ECF does not necessarily serve merely as an alternative financing tool but can also serve as a validation mechanism capable of surfacing multiple signals of venture quality directly to VCs.

The purpose of this study was to identify which signals of venture quality are associated with successful outcomes across both ECF and VC financing contexts. To answer this research question, the findings from the investigated cases suggest that signals relating to three core domains, expertise in the founding team, demonstrated demand, and third-party validation, are valued across both contexts. However, the study notes both similarities and differences in exactly which specific signals, within these domains, lead to successful funding. Ultimately, these findings indicate that the value of a specific signal does not necessarily depend solely on the signal itself. Rather, its effectiveness appears to be determined by the funding context and how it is interpreted by the respective investor types.

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Appendix A

Crowdfunding Models

Transactions within crowdfunding are categorised into four primary models, defined by what the backer receives in return for their financial contribution (Ahlers et al., 2015; Bradford, 2012):

- I. Donation-based: No financial or material return is expected. Backers contribute primarily out of philanthropic or personal interest to support a specific project or cause (Bradford, 2012). In 2019, the market share for donation-based crowdfunding in the UK accounted for approximately 22.4% of the total crowdfunding volume (Ziegler et al., 2021). However, during 2020, there was a pandemic-driven surge for charitable campaigns funding for instance, health and social sectors affected by the pandemic. As a result, the market share, for donation-based crowdfunding accounted for 51.4% of the total crowdfunding volume in 2020, demonstrating the potential of a donation-based model in times of crisis.
- II. Reward-based: Backers receive a non-financial reward in exchange for their investment. This often functions as a pre-order system for a product that is yet to be manufactured, but rewards may also include, for example, experiences and other products (Mollick, 2014). The previously mentioned Veronica Mars campaign is an example of a reward-based crowdfunding model (Rob Thomas, 2019). The investors, depending on their investment level, received rewards such as merch, a PDF of the shooting script, and a speaking role in the movie. Reward-based crowdfunding accounted for 0.6% of the total UK crowdfunding volume in 2019 (Ziegler et al., 2021).
- III. Lending-based: The crowd provides a loan to the entrepreneur with the expectation of repayment with interest over a set period, typically to fund general business purposes (Bradford, 2012). This model is the dominant segment of crowdfunding, accounting for approximately 72% of the total UK crowdfunding volume in 2019 (Ziegler et al., 2021). However, this substantial market share might be explained by an influx of institutional capital, since more than two-thirds of the total volume invested in lending-based crowdfunding comes from institutions, such as banks and pension funds.
- IV. Equity-based: Backers invest capital in exchange for unlisted shares or a direct ownership stake in the company (Ahlers et al., 2015). The equity-based model accounted for 5.2% of the total UK crowdfunding volume in 2019, however, 93% of the investors were non-institutional investors (Ziegler et al., 2021). A notable, albeit exceptional, example of an equity-based campaign is the fintech company Revolut, which in 2016 launched an equity-based campaign (Majic Predin, 2024). After seven years, some early investors had achieved returns as high as

400 times their initial investment, making it one of the most successful campaigns in history. However, such outcomes represent unusual and highly successful cases, and are not representative of the startup population, as 80% of ventures fail within five to seven years (Bradford, 2012).

Appendix B

Risk Mitigation and the all-or-nothing model

Investing in early-stage ventures involves considerable uncertainty, as ventures may be based on unproven ideas and limited operational track records (Ahmad, 2025; Buttice et al., 2020). This makes it inherently difficult for potential investors to fully assess the viability and quality of a project prior to making an investment. One challenge in the context of crowdfunding is the risk of undercapitalised projects, where ventures raise insufficient funds to successfully execute their proposed activity (Cumming et al., 2020). Such situations might increase the likelihood of project failure, despite the project's potential. To mitigate the inherent risks of investing in unproven ideas, crowdfunding transactions are highly structured. The most common framework is the all-or-nothing model. Under this structure, the entrepreneur must set a predetermined financial goal and a timeframe (Mollick, 2014). During the campaign, the platform acts as an intermediary, holding all incoming contributions in escrow (Belleflamme et al., 2014). If the campaign fails to reach its financial goal within the timeframe, the project is cancelled, and all funds are fully returned to the backers (Cumming et al., 2020). This mechanism protects backers from funding undercapitalised projects and protects entrepreneurs from attempting to execute an idea with insufficient funds (Cumming et al., 2020). The platforms facilitating these transactions typically generate revenue by charging a percentage fee exclusively on successfully funded campaigns (Mollick, 2014).

Appendix C

The Value Creation and Exit Phases

Following the investment phase, VC firms enter what is referred to as the value creation phase (Isaksson et al., 2026). During the lifetime of the fund, the objective is to grow the business and increase efficiency and market value. This is achieved through active engagement, for instance, via board participation, where VCs contribute to strategic decision-making and provide ongoing support. According to Metrick and Yasuda (2021), some VCs describe their jobs as “professional board members”. This allows the VC to gain high-level insight and provide support and advice. In addition, VC firms often support portfolio companies in building their teams, since startups often face challenges in attracting experienced talent (Metrick & Yasuda, 2021). VC firms may therefore use their networks to support recruitment and help build the organisation. In some cases, VC firms even promote job opportunities within their portfolio companies through their own platforms, such as firm websites (Hoxton Ventures, n.d.; HV Capital, n.d.; Northzone, n.d.).

The activities undertaken during the value creation phase are ultimately aimed at generating returns for VC firms and their investors, which are realised through a successful exit (Metrick & Yasuda, 2021). Exits may occur through mergers and acquisitions (M&A), including both strategic acquisitions and financial buyouts, as well as through initial public offerings (IPO). A strategic acquisition refers to the sale of a company to an industry participant seeking to integrate it into its existing operations as part of a growth strategy. Such buyers aim to realise synergies, for example, through economies of scale and access to new markets (Ekdahl, 2007). In 2025, strategic acquisitions accounted for 69% of all global VC exits (by number), representing 37% of total exit value, defined as the combined global monetary value of all exit transactions (Stanford et al., 2026). In contrast, a financial buyout refers to the sale of a portfolio company to a financial investor, such as a private equity firm (Ekdahl, 2007). Buyouts accounted for 20% of global VC exits and represented 12% of the total exit value in 2025. In addition to M&A, VC firms may also exit through IPOs, whereby the company becomes publicly listed, and ownership is transferred to public market investors. Although IPOs accounted for only 11% of global VC exits in 2025, they represented 51% of the total exit value (Stanford et al., 2026), indicating that a relatively small number of public listings generate a disproportionately large share of exit value. This is consistent with Metrick and Yasuda (2021), who suggest that IPOs are associated with potentially higher returns compared to other exit routes.

Appendix D

Regional and Sectoral Distribution of VC Investment Activity

North America has historically been the dominant region in terms of VC investment activity, accounting for approximately 66% of global VC deal value (\$336.2 billion) in 2025, based on the location of portfolio companies (Stanford et al., 2026). In contrast, Europe represented approximately 16% of global VC deal value in 2025, highlighting significant regional differences in investment activity. North America's dominant position is further supported by the distribution of the largest global VC deals, where 33 out of the 40 largest deals in 2025 were investments in US-based companies, compared to five in Europe and two in Asia. The largest deal in 2025 was the \$40 billion late-stage VC investment in OpenAI. This also reflects a broader trend within the VC industry, where artificial intelligence and machine learning have emerged as dominant investment sectors. In 2025, companies operating within artificial intelligence and machine learning accounted for 63.8% of the total deal value in North America and 43.4% in Europe (Stanford et al., 2026).

Appendix E

Information Asymmetry

In external corporate financing, decision-makers often operate under limited information. In addition, information is typically unevenly distributed between parties. This is referred to as information asymmetry, a concept formally introduced by Akerlof (1970), which describes a transactional imbalance where one party possesses superior knowledge compared to the other. Akerlof (1970) demonstrates how sellers typically know the true quality of a good, while buyers operate with significant uncertainty. If left unmitigated, this information gap leads to adverse selection, a form of market failure where buyers, unable to distinguish between high-quality and low-quality assets, reduce their overall willingness to invest.

Applied directly to the market for early-stage financing, the entrepreneur acts as the “seller” of an investment opportunity, while the external investor acts as the “buyer” (Denis, 2004). The early-stage environment is inherently characterised by information asymmetry. The founder holds insider insight into the company’s true technological viability, internal team dynamics, and hidden operational risks (Shane & Cable, 2002). Conversely, the external investor evaluates the venture based on limited, and often curated, information. Early-stage ventures typically lack historical financial data or tangible assets to prove their worth, therefore this informational asymmetry becomes the central hurdle in the financing process (Berger & Udell, 1998; Carpenter & Petersen, 2002).

While information asymmetry is a universal challenge in early-stage financing, it is particularly pronounced in the context of ECF. As Signori and Vismara (2018) argue, the crowd (predominantly consisting of non-professional individuals) typically lacks the financial expertise, capital incentives, and resources required to verify the entrepreneur’s claims through due diligence. This information disadvantage makes ECF investors rely on easily observable indicators, such as the founders' backgrounds or campaign design, to evaluate the company's underlying quality and mitigate the risk of adverse selection.

Conversely, as professional investors, VCs overcome the severe adverse selection problems inherent in early-stage markets by approaching information asymmetry with more sophisticated tools (Amit et al., 1998). They possess the resources and industry expertise necessary to perform extensive financial, legal, and technical due diligence before committing any capital (Sahlman, 1990). To further bridge the information gap and ensure the alignment of interests post-investment, VCs actively monitor their portfolio companies by securing board seats (Kaplan & Strömberg, 2004). Therefore, while VCs still

face the inherent uncertainties of investing in startups, their systematic screening processes reduce the traditional information asymmetry compared to the ECF market.

However, when a firm that has previously raised capital through ECF subsequently seeks follow-on funding from a VC, the information asymmetry problem evolves into a “double layer” of uncertainty for the professional investor. The first layer consists of the standard, inherent information gap: the entrepreneur possesses superior knowledge regarding the startup’s true technological viability, internal dynamics, and market potential. The second layer of uncertainty stems directly from the prior ECF round itself. Because the crowd typically does not conduct thorough due diligence, a successful ECF campaign may fail to provide the credible certification of quality usually expected from early professional backing, such as business angels or seed-stage VCs (Walthoff-Borm et al., 2018). Consequently, the ECF history can act as a negative signal, prompting the VC to question whether the startup resorted to ECF simply because its underlying quality was previously evaluated and rejected by established institutional investors (Walthoff-Borm et al., 2018). Ultimately, this solidifies the “double layer” of uncertainty for the VC: the inherent information gap must be bridged while simultaneously addressing the adverse selection signal.

Appendix F

Human Capital

In the early stages of a venture's lifecycle, the individuals behind the company serve as critical indicator signals for its future viability (Gompers et al., 2020; Piva & Rossi-Lamastra, 2018). This holds true across both ECF and VC contexts. In the ECF setting, team-related signals function as accessible heuristics for the non-professional crowd, who lack the capacity to conduct independent technical or financial due diligence (Ahlers et al., 2015; Vismara, 2016). In the VC context, the management team is consistently ranked as the single most important evaluation criterion, outweighing product, market, and financial characteristics in investment selection (Gompers et al., 2020).

Signals in ECF

MBA on the Board

The presence of an MBA credential within the founding team or board serves as a clear, easily interpretable quality signal for the non-professional crowd. Because it can be perceived as a binary attribute (MBA present/absent), it acts as a low-ambiguity signal that requires little financial literacy to evaluate. However, the signal's impact can also be evaluated quantitatively by measuring the proportion of MBA holders on the board. In this context, Ahlers et al. (2015) demonstrate that a 1% increase in the proportion of board members holding an MBA generates a 1.7% increase in the number of investors, confirming that the signal's strength scales with intensity.

Financial Experience

Financial experience within the founding team, defined broadly in the ECF context as formal financial roles, such as investment banking or senior commercial leadership, serves as a quality signal. According to Piva and Rossi-Lamastra (2018), Human Capital indicators reflecting overarching business competence are characterised by high signal fit and low signal ambiguity. This experience is of high signal fit, as it addresses the founder's competence in managing capital and navigating funding rounds. Furthermore, because financial competence is broadly understood by a general audience, the non-professional crowd can evaluate it without domain-specific knowledge, resulting in low signal ambiguity. Barbi and Mattioli (2019) confirm that financial experience within the team functions as a distinct success factor, positively influencing both investor participation and capital raised.

Industry-Specific Experience

Industry-Specific experience refers to an entrepreneur's work experience within the industry in which their start-up operates (Piva & Rossi-Lamastra, 2018). In contrast to financial experience, industry-specific experience represents a signal with high signal fit but equally high signal ambiguity. While deep sector knowledge is inherently valuable, the non-professional crowd often lacks the expertise required to accurately evaluate and comprehend its worth. Consequently, this signal has a neutral effect on investor behaviour in the ECF context. This distinction illustrates how signal ambiguity can neutralise an otherwise strong signal.

Team Size and Board Composition

The composition and size of the team are among the most prominent signals in the ECF context. Ahlers et al. (2015) find that the addition of one board member generates a 40.8% increase in the total number of investors, illustrating the signal's considerable pull on the crowd. This relationship is reinforced by subsequent studies, which demonstrate that a larger Top Management Team (TMT) and a greater overall number of team members broadly correlate with higher capital raised and deeper investor pools (Battisti et al., 2024; Nose & Hosomi, 2023; Vismara, 2016). Beyond sheer size, the structural composition of the team also matters. The presence of non-executive board members functions as a proxy for quality. Koutun (2016) demonstrates that this inclusion serves as a positive indicator for campaign success at a 10% significance level. Extending this logic beyond the boardroom, Battisti et al. (2024) conclude that expansive teams in general improve the probability of a successful campaign, significant at the 1% level.

Gender Composition

Gender operates as a context-dependent signal in ECF campaigns. At the team level, Barbi and Mattioli (2019) find that an additional female team member increases investor count by 10% and capital raised by 13%, suggesting that gender diversity functions as a mild positive signal. However, the picture shifts when isolating individual female founders: Battisti et al. (2024) find that female-led campaigns attract fewer non-professional investors while professional investors remain indifferent. Similarly, Vismara (2016) observes that female founders raise less total capital. The most striking evidence of bias is provided by Kleinert and Mochkabadi (2022), whose findings show that female-led projects received only 81% of the funding and 72% of the investors relative to male-led counterparts. Most notably, their study shows that leadership experience paradoxically reduces the capital raised by 15% for women, despite increasing it by 48% for men.

Signals in VC

Founding Team Quality

While the human element is variously referred to as the “Entrepreneur”, “Human Capital”, or the “Team” (Jang & Kaplan, 2025; Robb & Robinson, 2014; Vinig & De Haan, 2002), the qualities being evaluated remain largely consistent. These qualities can be conceptualised as a set of signals and may include the founders’ track record, leadership abilities, and specific industry or technical experience in fields such as business and engineering. The assessment may focus either on a single entrepreneur or on a collective management team, depending on the organisational structure.

To establish the weight and significance of these signals, Vinig and De Haan (2002) conducted a comparative analysis of VC firms in both the US and the Netherlands. Their findings across these different investment markets established that Human Capital is the most critical factor, consistently weighted between 31.1% and 35.5% of the total investment decision. This importance is further supported on a larger scale by Gompers et al. (2020), who surveyed 885 VCs from 681 firms, and found that 95% of VC firms cite the management team, encompassing the founders' collective industry expertise, technical capabilities, and prior entrepreneurial track record, as an important factor, with 47% considering it the most important variable of all. Similarly, Jang and Kaplan (2025) state that the Human Capital variable holds the highest explanatory power for investment decisions ranging from \$1 to \$10 million, corresponding to the early stages of a venture. Beyond survey-based weights, the cause-and-effect relationship between team quality and investor interest is demonstrated by Bernstein et al. (2017). Their experimental evidence shows that disclosing information about a high-quality founding team increases investor interest by 2.2 percentage points, representing a 13% increase relative to the baseline of 16.5% (the average interest level without specific team information).

Collectively, these findings confirm that the Human Capital category has remained the primary focus for VCs both over time and different markets.

Entrepreneurial Passion and Personal Traits

Beyond the entrepreneur's track record or experience, VCs rely on qualitative personality signals to evaluate a founder's ability to navigate environmental uncertainty. In a study of 100 VCs, Macmillan et al. (1985) found that the “ability to sustain intense effort” is the single most important investment criterion, ranked number one overall. This emphasis reflects a focus on the founder's persistence, as VCs prioritise the individual's character to mitigate management risk. Modern research by Warnick et al. (2018) further distinguishes these signals. In an analysis of 46 VCs, they found that entrepreneurial passion, defined as passion for the process of building ventures, is a significantly stronger investment signal ($b = 0.54, p < 0.01$) than passion for the specific product ($b = 0.22, p < 0.05$). Together, these findings show that VCs prioritise specific personality traits to identify founders who possess the psychological endurance required for a venture's long-term survival.

Product & Market

The Product & Market category captures signals relating to the venture's innovation, market position, and the clarity of its value proposition. In the ECF context, the crowd relies heavily on easily interpretable quality signals to assess viability, given their limited capacity for independent technical evaluation (Lukkarinen et al., 2016; Piva & Rossi-Lamastra, 2018). In the VC context, market-related criteria, such as market size, the competitive landscape, and market traction, represent the second most important category of evaluation criteria, right behind the management team (Gompers et al., 2020). Signals in this category vary considerably in their measurability, ranging from the binary presence of a patent to the inherently subjective assessment of business model clarity.

Signals in ECF

Intellectual Property

Ownership of intellectual property, such as patents or licences, is repeatedly presented as a signal of quality perceived by the crowd. Ralcheva and Roosenboom (2020), studying the UK-based crowdfunding platforms Crowdcube and Seedrs, find that ventures holding intellectual property achieve a 15% higher rate of campaign success, significant at the 1% level, and attract 35% more investors. The same positive relationship is observed by Nose and Hosomi (2023) in the Japanese ECF market at the 5% significance level, suggesting that intellectual property functions as a cross-market signal of product quality.

External Validation – Grants and Awards

External validation in the form of government grants or awards functions as a binary quality signal, transferring credibility from a trusted third party to the venture. Ralcheva and Roosenboom (2020) show that ventures holding such recognition yield a 28% higher probability of campaign success, significant at the 1% level. This is corroborated by Ahlers et al. (2015), whose correlation analysis yields a positive association between award status and campaign outcomes, significant at the 1% level.

Market Traction

Demonstrating that the company has already reached the market is one of the most powerful signals for reducing perceived risk among non-professional investors. If a product or service has successfully been launched, uncertainty is significantly lowered. Nose and Hosomi (2023) demonstrate this effect, finding that ventures with existing product releases achieve an 83% campaign success rate, compared to 64% for those without. The availability of historical data further reinforces this effect, serving as concrete evidence of the venture's operational progress and stability (Razan & Widyastuti, 2022).

Business Model Understandability

Unlike the preceding signals, business model understandability is inherently subjective and cannot be directly measured or verified, it must be inferred from how clearly the venture communicates its value proposition to a general audience. Signals that suffer from high ambiguity lose efficacy regardless of their underlying quality (Piva & Rossi-Lamastra, 2018), and business model complexity is a primary source of such ambiguity in ECF campaigns. Razan and Widyastuti (2022) document understandability as a key success factor, and Lukkarinen et al. (2016) find that B2C ventures perform better than B2B ventures, as consumer-facing models are easier for the non-professional crowd to understand and evaluate

Signals in VC

While the team plays a central role in early screening, Jang and Kaplan (2025) show that for investments exceeding \$10 million, the focus shifts from Human Capital to the Product & Market. In a study of more than 8 000 sourced deals, it was found that having a high joint score on Product & Market can increase the likelihood of securing a VC investment of at least \$10 million by 28%. For even larger financing rounds of \$25 million, this combination roughly triples the baseline likelihood of success. The relevance of these categories is further supported by Vinig and De Haan (2002), who found that across different markets, the product criterion receives a consistent weight of approximately 24–25%, while the market criterion accounts for 21–26% of the total assessment.

Proprietary

The proprietary signal (e.g., protection and uniqueness), is an indicator of a venture's defensibility, with weightings ranging between 21% and 32% in various VC markets (Vinig & De Haan, 2002). According to Hoenig and Henkel (2015), VCs view patents primarily in the capacity of property rights, functioning as productive assets rather than direct signals of technological quality. This function as a legal barrier is aligned with the assessment of market competition, where the lack of competition during the first year carries a weight between 7% and 22% (Vinig & De Haan, 2002). This was stated early on by Macmillan et al. (1985), who in their study found a negative correlation between the presence of anticipated competition within the first two years and the market share by -0.31, as well as with the sales by -0.25. Collectively, these signals indicate that investors focus on the venture's ability to maintain market exclusivity through legal and defensive barriers.

Innovation and Research Alliances

Innovation serves as a signal of a venture's market-creating potential, accounting for up to 28% of the assessment. While patents provide legal protection, Hoenig and Henkel (2015) find that VCs rely on research alliances as the primary signal of a venture's technological quality as this generates third-party validation. The presence of a research alliance increases the probability of receiving financing by 15.6 percentage points. This suggests that in investment contexts where innovation is prioritised,

the signalling value is derived from a collaborative validation and the team's ability to innovate, rather than purely from formal intellectual property rights.

Market Growth, Size and Competition

Market conditions are identified as a critical signal by 68% of VC firms, according to a large survey with 681 VC firms (Gompers et al., 2020). The evaluation of these signals primarily focuses on market dynamics, such as whether a venture enters a fast-growing sector, stimulates an existing market, or creates entirely new market categories (Vinig & De Haan, 2002). Among these variables, a fast-growing market is established as the most significant signal, with weightings ranging between 32% and 48% across different investment regions. The size of the market is another important factor with a weighting of 17% to 26%, VCs prioritise large markets as they provide the necessary ceiling for scalability. Lastly, competition is evaluated to mitigate risk. Competition during the first year is weighted between 7% and 22%, with the weight increasing as the level of competition is lowered.

Market Acceptance

This signal focuses on the customer's response to the offering (Jang & Kaplan, 2025). Macmillan et al. (1985) early identified market acceptance as one of the two strongest predictors for the success of a venture in a study of 150 ventures and 67 VC firms. By demonstrating early market acceptance entrepreneurs can mitigate the VC's worry of a potential cash-out risk, meaning that the investments get locked up in an illiquid asset. This was based on the results of the study, where the successful ventures received an average market acceptance of 3.58 (on a scale of 1-5), compared to the failed ventures who received 2.32. The study also showed that a higher acceptance leads to significantly more efficient marketing spending, with a positive correlation of 0.32. Furthermore, there was a positive correlation with sales (0.28) and market share (0.26).

Financial Structure

The financial dimension of early-stage financing encompasses a range of signals that investors use to assess a venture's viability and the fairness of the offering. In the ECF context, these structural parameters are among the most objectively measurable signals available, and the literature documents consistent and significant effects on campaign outcomes (Ahlers et al., 2015; Koutun, 2016; Vismara, 2016). In the VC context, Financial Structure is evaluated through a different lens. VCs conduct detailed financial due diligence and place particular emphasis on return potential, exit possibilities, and the reasonableness of valuation (Gompers et al., 2020). While some signals, such as valuation, carry weight in both contexts, there are others, such as minimum investment thresholds, that are largely specific to the ECF setting.

Signals in ECF

Equity Retention

One of the most empirically robust signals in the ECF literature is the proportion of equity that founders choose to retain, and conversely, the share offered to the crowd. A high proportion of equity offered to the market signals low founder commitment and generates a negative investor response. Ahlers et al. (2015) find that a 1% increase in equity offered correlates with a 1.8% reduction in investor participation and a 15% slower rate of capital allocation. Koutun (2016) observes the same inverse relationship, and Battisti et al. (2024) confirm that a high equity offering is one of the strongest negative signals in the dataset, affecting both professional investors and the crowd, and is significant at the 1% level. Notably, Ralcheva and Roosenboom (2020) do not replicate this finding, representing a point of contention in the literature.

Valuation and Share Price

The implied valuation of the campaign, most directly observed through share price, functions as a quantitative signal that investors use to assess the reasonableness of the offering. High valuations are penalised by the crowd, as they increase the perceived entry barriers and lower the potential for future returns. Koutun (2016) finds a negative correlation between share price and campaign success, suggesting that the crowd is sensitive to perceived overvaluation and prefers offerings where the price aligns with the venture's current stage of development.

Financial Transparency and Forecasts

Financial transparency functions primarily as a binary signal, a campaign either discloses forecasts and disclaimers, or it does not. Ahlers et al. (2015), studying the Australian platform ASSOB, provide striking evidence of its importance. Ventures disclosing neither a financial forecast nor a legal disclaimer experience a 97% slower rate of capital allocation and raise, on average, 210 000 AUD less than those that do. Notably, a disclaimer acknowledging forecast uncertainty proves statistically equivalent in effect to providing an actual forecast, suggesting that investors reward honesty about risk as much as the projections themselves. Razan and Widyastuti (2022) support this in the Indonesian market, finding strong positive correlations between financial disclosure and both funding amount and investor count, significant at the 1% level. Furthermore, Razan and Widyastuti (2022) find that overly optimistic financial projections have a negative effect on outcomes, as the crowd tends to prefer realistic and achievable forecasts over unjustified promises of high returns.

Funding Goal and Minimum Investment Threshold

The absolute size of the funding target and the threshold for the smallest investment required for participating in the campaign, both serve as quantitative signals shaping investor behaviour. This relationship is exhibited by Koutun (2016), who finds that a 1% increase in the funding goal decreases

the probability of campaign success by 12%, suggesting that overly ambitious funding targets enhance perceived risk. Conversely, a low minimum investment threshold lowers the barrier to entry, broadens the potential investor base, and generates positive momentum early in the campaign (Lukkarinen et al. 2016).

Signals in VC

Exit Potential and Time Horizon

Another category of screening criteria relates to the Financial Structure of the investment. This dimension is closely linked to the venture's exit potential, which constitutes a key consideration for VCs (Jang & Kaplan, 2025). Evaluated signals within this category may include the expected time horizon for returns, typically ranging from five to ten years, the likelihood of achieving liquidity through exit routes such as an IPO or M&A, and the anticipated need for participation in future financing rounds (Vinig & De Haan, 2002). However, prior research suggests that financial and exit-related criteria are generally less influential in early-stage investment decisions compared to other factors. For instance, Jang and Kaplan (2025) find that VCs place greater weight on signals related to the team and product, while differences in market and exit-related evaluations are comparatively smaller. This indicates that although Financial Structure remains an important consideration, it is typically secondary to more qualitative assessments in the screening process.

Social Capital

In environments characterised by high information asymmetry and perceived risk, individual investors rarely make isolated decisions independent of their surroundings. In the ECF setting, investors look for guidance by scanning the behaviour of others. If others are investing, a venture might be of greater interest to potential backers (Razan & Widyastuti, 2022; Vismara, 2016). A similar logic appears in the VC context, where network ties and referrals have a clear and central place in deal-sourcing. A recommendation from a trusted and credible source carries considerable weight and often determines whether a venture receives attention in the first place (Gompers et al., 2020). In this category, there are signals classified as quantitatively measurable, such as the founder's size of network, and signals of a more qualitative nature, for instance different forms of third-party validation.

Signals in ECF

Early Professional Backing

Early investment from a professional actor prior to an ECF campaign functions as a binary signal of quality, which transfers credibility from the backer to the venture. Notably, the ECF literature reveals that different types of professional backing are perceived distinctly by the crowd. Ralcheva and

Roosenboom (2020) find that business angel backing increases the probability of a successful campaign by 20%, suggesting that business angel involvement serves as an influential positive signal for crowd investors. Conversely, this positive relationship is not reinforced by Nose and Hosomi (2023), who find no positive effect between VC or CVC backing and campaign success. This indicates that the crowd does not uniformly interpret all forms of professional institutional backing as a positive signal.

Founder's Social Network Size

The size of the founder's personal and professional network functions as a quantitative signal of Social Capital and outreach capacity. In ECF, Vismara (2016) finds that the number of LinkedIn connections held by the founder correlates positively with both the number of investors and the funding amount, significant at the 5% level. Razan and Widyastuti (2022) corroborate this in the Indonesian market, finding that social media presence and network connections serve as strong positive signals. The mechanism is straightforward: a large network extends the organic reach of the campaign, reducing reliance on the platform's own traffic and generating early momentum. It should be noted, however, that the founder's network size at the precise time of the campaign may be difficult to observe retrospectively, which represents a practical limitation in operationalising this signal.

Herding and Early Momentum

Early investment momentum generates social proof that functions as a self-reinforcing signal to subsequent investors. Within the ECF context, this dynamic is commonly referred to as herding behaviour and is a well-documented mechanism present in ECF campaigns. Vismara (2016) finds that campaigns that secure capital quickly in their opening phase gather significantly larger sums from the crowd, as early investor momentum signals that the venture has been validated by peers, creating incentives for subsequent investors to get involved. Razan and Widyastuti (2022) observe the same pattern in the Indonesian market, where a high number of early investors predictably attract subsequent waves of funding. Lukkarinen et al. (2016) additionally find that media coverage functions as an analogous third-party validation mechanism, driving external traffic and investor conversion independently of the campaign's intrinsic quality.

Signals in VC

Network-Based Deal Sourcing

Deal sourcing refers to how the investment opportunity reaches the VC firm. This generally happens in three different ways: through outbound sourcing, where the VC firm searches for ventures themselves; inbound sourcing, initiated by the entrepreneur or other external parties; and referrals

from co-investors, where other VCs recommend a deal. The sourcing channel serves as a signal itself, as the different methods significantly impact the likelihood of a VC conducting further due diligence. Jang and Kaplan (2025) show that for ventures referred from a co-investor, the likelihood of being analysed in depth is 13.5%, while it is 5.3% and 2.7% for inbound and outbound deals, respectively. Additionally, it is shown that when holding other factors constant, a referral from a co-investor increases the likelihood of raising at least \$1 million by 13.5 percentage points relative to the baseline.

Syndication and Co-Investor Validation

Syndication refers to the presence of other respected VCs in a deal. Lerner (1994) argues that syndication in early-stage investments is primarily driven by the need for a second opinion or validation of the lead investor's own assessment. Since VCs rank selection ability as more critical to their success than value-adding activities (Gompers et al., 2020), the presence of other professionals indicates that the venture has already passed rigorous professional due diligence. Empirically, this signal is associated with the long-term survival of the venture. Jang and Kaplan (2025) show that ventures backed by a syndicated deal exhibit an 11.5 percentage point higher survival rate, as well as reduction in the risk of the venture being unsuccessful (e.g., failing to survive or be acquired) by 14.5 percentage points.



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