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A Mixed Methods Approach

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Business Angel Groups and Exit Strategies

A Mixed Method Approach

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Business Angel Groups and Exit Strategies

A Mixed Method Approach

Kalyan Pasumarthy

LUND
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DOCTORAL DISSERTATION

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Abstract:

The rise of business angel groups represents a shift in the early-stage financing landscape. This thesis examines the heterogeneity and dynamics of angel groups, focusing on two interconnected research questions: (1) How do financial capital, locus of decision-making, and formalization influence exit strategies within angel groups? and (2) How do angel groups leverage their collective resources to implement exit strategies? In addition, the emergence of 'hybrid angel groups' that combine elements of both informal angel investing and formal venture capital funds is explored and conceptualized.

To address these questions, a mixed-method approach is employed. At the macro level, a survey of 160 angel groups in Sweden is analyzed, presenting four distinct clusters of angel groups, each characterized by different combinations of formalization and locus of decision-making, and associated with varying exit strategies. Financial capital emerges as a key resource, enabling angel groups to engage in larger, later-stage investments and pursue deliberate exit strategies.

At the micro level, an interview-based case study of a 'hybrid angel group' is conducted. Applying a dynamic capabilities view, the analysis uncovers four routines - interplay of decision-making, network utilization, dynamic risk management, and relational dynamics - through which the group leverages its resources in pursuit of exit strategies.

This thesis challenges the prevailing view of exits as incidental outcomes for business angels, presenting the deliberate and strategic approach taken by angel groups in planning and executing exit strategies. It extends prior research on the heterogeneity and professionalization of angel groups, identifying distinct archetypes and their implications for entrepreneurs seeking funding. It also discusses dynamic capabilities in the context of non-hierarchical, product-agnostic investment firms operating in uncertain environments.

Key words:

Business Angels, Angel Groups, Exits, Resource Based View, Dynamic Capabilities View, Mixed Method, Early Stage Financing, Venture Capital, Start-up

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To అమ్మ, నాన్నా and Camilla

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1. Introduction and Research Questions

Business angels are high net worth individuals that invest a proportion of their assets in high-risk, high-return entrepreneurial ventures, to which they have no family connection (Avdeitchikova, Landström & Månsson, 2008; Freear, Sohl & Wetzel, 1994). In recent years, the field of business angel investments has garnered increased attention from both academic and practitioner communities (Mason, Botelho & Harrison, 2019). This heightened interest can be attributed to several factors. One such factor is the observed shift in investment strategies amongst business angels. Instead of investing individually, business angels are increasingly investing in groups. This shift has allowed them to grow their operations from early-stage investing to expansion and late-stage investing (Bonini et al., 2018; Mason, Botelho & Harrison, 2019). Angel investors are increasingly participating in groups that consist of syndicates, networks and clubs, depending on their level of internal structure.

The underlying rationale for the growing number of angel groups is that individual angels are seeking to overcome limitations, such as limited resources, which can impede efficient investing practices. One illustration of such a limitation is the ability to make follow-on (additional) investments and secure exits from their investments, i.e., being able to sell their equity and recover their original investment plus a premium versus no return (McDonald & DeGennaro, 2016). Individual angels are often not involved in making follow-on investments and rely on venture capital funds for raising additional financing (Mason, Botelho & Harrison, 2019). This compromises angels' operational autonomy and places them in a vulnerable position, as was notably demonstrated during the dot-com crash of the early 2000s (GP Capital, 2004; Harrison & Mason, 2007).

The limitations faced by individual business angels have led to an increasing recognition of the need for syndication amongst these investors. Syndication enables angels to pool their knowledge and resources, allowing them to make substantial investments in relatively later stages of a firm's life-cycle and

achieve exits, which can be challenging for individual angels to achieve on their own (Kerr, Lerner & Schoar, 2014). However, relatively nascent literature on business angel groups has conducted little research on exits and, instead, the focus has been on the measurement of angel group investment performance (Capizzi, 2015), the role of gatekeepers (May, 2002; Paul & Whittam, 2010), rejection criteria (Carpentier & Suret, 2015; Croce, Tenca & Ughetto, 2017; Kerr, Lerner & Schoar, 2014; Mason & Botelho, 2017), investment criteria (Brush, Edelman & Manolova, 2012; Tenca, Croce & Ughetto, 2018) and member involvement in angel groups (Bonnet et al., 2022; Wirtz et al., 2019; Wirtz, Bonnet & Cohen, 2017).

Exits are central to the operation of angel groups, even more so than in the case of individual angels, for several reasons. Firstly, exits provide liquidity to members, enabling them to make further investments and maintain an efficient deal flow (Gregson, Bock & Harrison, 2017). Secondly, exits play an important role in signaling quality in the early-stage financing sector, which suffers from issues such as informational asymmetry, agency problems and moral hazard (Harrison, Botelho & Mason, 2016). Thirdly, exits are also important from the perspective of entrepreneurs, as they can prompt a process of entrepreneurial recycling in which members of the entrepreneurial team reinvest their newly acquired wealth, along with their accumulated experience and time, in other entrepreneurial activities (Mason, 2006). Fourthly, by achieving exits, angel groups can stimulate the supply-side of the early-stage financing market. They can attract new members, including both experienced and inexperienced angels who are interested in investing in emerging companies but lack the time, referral sources, investment skills or ability to add value on their own. This influx of new investors can expand the deal flow and potential investments of the angel group, injecting more capital back into the market (Mason & Brown, 2014). Therefore, the ability of investors to achieve exits can also enhance the vibrancy of entrepreneurial ecosystems.

As previously noted, the topic of exits in the context of business angel groups has received limited attention in both the literature on business angels and broader entrepreneurship literature. Additionally, the latter has primarily focused on exits from the perspective of the entrepreneur, neglecting to examine them from the perspective of investors (e.g. DeTienne & Wennberg, 2016; Wennberg et al., 2010; Wennberg & DeTienne, 2014). A review of the literature on business angels (Edelman, Manolova & Brush, 2017; Tenca, Croce & Ughetto, 2018; Wallmeroth, Wirtz & Groh, 2018) reveals that the few studies that have examined exits in the investment process have primarily focused on investment returns (DeGennaro & Dwyer, 2014; Gregson, Bock &

Harrison, 2017; Mason & Harrison, 2002; Wiltbank, 2009; Wiltbank et al., 2009).

However, researching exits within the context of business angel groups is a nuanced and intriguing topic, given the complexity of their investment activities. This complexity partly stems from the varied organizational models of angel groups, as noted in several studies (Cerullo & Sommer, 2002; Lewis & Zalan, 2012; Mason, Botelho & Harrison, 2019; May 2002; Payne & Macarty, 2002). These groups exhibit diverse approaches to investment processes (Mason & Botelho, 2016). In the broader context of finance literature, the way investment firms are organized plays a role in informing decision-making processes and mitigating informational asymmetry (Csaszar, 2012; Jensen, 1993; Mason & Botelho, 2016; Shleifer & Vishny, 2007). This role extends to crucial decisions, affecting choices in pursuing exit routes and strategies (Dehlen et al., 2014).

In this research, the concepts of locus of decision-making and formalization are employed as measures of structure within angel groups. From an empirical perspective, this approach is relevant as angel groups' operating archetypes have not been measured distinctly in the existing literature before. Past literature has, however, observed the existence of heterogeneity within angel groups, which ranges from structured groups that invest under the group's name - guided by a designated 'manager', 'gatekeeper' or an 'inner circle of angels' involved in investment decisions -to unstructured networks in which members can choose to participate in certain investments (Croce, Tenca & Ughetto, 2017; Harrison, Botelho & Mason, 2016; Ibrahim, 2008; May, 2002; Payne & Macarty, 2002).

In this document, the investigation of angel groups operates on two interconnected levels: the macro, focusing on the heterogeneity within these groups and their varying exit strategies, and the micro, examining how resources are utilized in pursuit of these exit strategies. At the macro level, I will particularly focus on the relationship between financial capital, formalization and locus of decision-making within angel groups. In the context of angel groups, which are investment funds, the extent of available financial capital could significantly dictate their investment processes. Financial capital, far from being a mere facilitator of investments, acts as a base for organizational sophistication in angel groups. As these groups accumulate more substantial financial resources, their ability to participate in larger or more advanced investment stages increases. This increase necessitates a more calculated approach to risk management (Ibrahim, 2008; Bonini et al., 2018), including extensive due diligence for evaluating potential exits and aligning

them with high-return potentials (Cumming & Johan, 2010; Gompers et al., 2008).

Formalization within these groups acts as a strategic framework essential for managing their portfolios, potentially encompassing comprehensive guidelines for diversification, performance benchmarks, regular investment reviews, coordinated decision-making and due diligence processes, exit strategies and defined roles and responsibilities among members. Therefore, formalization could be integral in aligning the groups' strategic objectives with the risk-return profiles of various ventures (Harrison & Mason, 2000; Mason et al., 2019).

Locus of decision-making indicates whether decision-making power is centralized or decentralized within the group. A concentrated approach to decision-making, especially when focused within a core leadership team or designated members, could be instrumental in strategizing exit plans and ensuring consistency and strategic coherence throughout the investment portfolio (Elton & Gruber, 2001; Kester et al., 2011).

In this study, I will address both a macro and a micro level of angel group investing. The macro level focuses on the interplay of formalization, locus of decision-making and the role of financial capital within angel groups, examining how these elements collectively shape exit strategies. The micro level, on the other hand, delves into the dynamics within an angel group, specifically focusing on how angels leverage a variety of resources – beyond financial capital – to effectively implement exit strategies.

> RQ1: How do financial capital, locus of decision-making, and formalization influence exit strategies within angel groups?

To explore this research question, a survey was conducted, yielding 160 respondents from angel groups operating in Sweden. The data were analyzed using structural equation modeling, regression analysis, cluster analysis, and related post hoc tests to ensure rigor and validity.

On the micro level, this research focuses on how a 'hybrid angel group', conceptualized from the macro-level, leverages its resource base to effectively implement exit strategies. The topic is explored through qualitative analysis. Its resource base, including expansive networks and industry-specific expertise, when synergistically combined have the potential to significantly influence the actualization of exit strategies. This can lead to outcomes that are greater than the sum of individual efforts. The dynamism of startups and the

investment landscape further compounds the need for angel groups to be agile in their strategic approaches (Wiltbank et al., 2009; Trabelsi & Siyahhan, 2021).

This research argues that such adaptability is anchored in the development of dynamic capabilities (Teece, 2007), particularly the capability to reconfigure resources in response to changes in a startup's maturity and market conditions on the path to exit avenues. Angel groups, by developing and leveraging their dynamic capabilities, could pursue exit strategies in volatile environments. In this part of the research, an interview-based case study was conducted on an angel group, comprising 11 in-depth interviews with all (six) members of the group. This methodology is intended to elucidate the following research question:

> RQ2: How do angel groups leverage their collective resources to implement exit strategies*?*

In this research, exits are defined using the approach proposed by McDonald and DeGennaro (2016) which differentiates between two types of 'termination events': (i) exits, which are outcomes where the investor recovers their original investment plus a premium (e.g. through an IPO, trade sale to third-party investors or management share buy-back) and (ii) expirations, where the investment is written off or generates zero returns, typically as a result of the closure (failure) of the business object of the investment.

This distinction acknowledges that exits and expirations are different in terms of investor intentions and behaviours. While investors aim to achieve exits and may act in ways that facilitate their realization, they do not aim for or work towards expirations. Given that this research focuses on completed exits and their process, only 'exits' are considered as a central and distinct concept and 'expirations' are disregarded.

1.1 Research Problem

The emergence of business angel groups as a prominent feature in the landscape of entrepreneurial finance has given rise to a new and intriguing phenomenon that challenges our conventional understanding of early-stage investing. While on the surface these groups may appear to be a mere aggregation of individual angel investors, a closer examination reveals a far

more complex and nuanced picture. Business angel groups are not simply a sum of their parts, but rather a unique organizational form that emerges from the interactions and dynamics between their members (Mason & Botelho, 2014). They represent a nexus of individual and collective interests, goals and resources that shape their investment strategies, decision-making processes and value-adding activities (Paul & Whittam, 2010).

At the core of this complexity lies the hybrid nature of angel groups, which combines elements of both informal and formal investing (Bonini et al., 2018; Croce et al., 2017). Angel groups represent a unique organizational form that sits at the intersection of individual and collective action, where investment decisions and value-adding activities are shaped by the interplay of personal and professional motivations, resources and relationships between their members (Mason & Botelho, 2014; Paul & Whittam, 2010). This hybridity gives rise to a range of organizational tensions and challenges that are not fully captured by the existing theories and models of angel investing or venture capital.

One key tension is between the autonomy and discretion of individual angels and the need for coordination and alignment within the group. Angel investors are typically high-net-worth individuals who value their independence and flexibility in making investment decisions based on their personal criteria, networks and instincts (Mason & Harrison, 2000; Politis, 2008). However, the formation of angel groups implies a recognition of the limitations and risks of individual investing, such as information asymmetry, adverse selection and moral hazard (Aernoudt, 1999; Mason & Harrison, 1995). By pooling their resources and sharing the costs and benefits of investing, angel groups can achieve economies of scale and scope, reduce uncertainty and enhance their ability to identify, evaluate and support promising ventures (Gregson et al., 2017; Amatucci & Sohl, 2004). However, realizing these potential advantages requires a degree of coordination in the group's investment processes and decision-making.

The tensions and challenges that arise from the hybridity of angel groups, particularly the need to balance individual autonomy and flexibility with collective coordination and alignment, cannot be fully captured by existing theories of angel investing or venture capital. Existing knowledge about angel investing has primarily focused on the characteristics, motivations and decision-making processes of individual angel investors (e.g., Mason & Harrison, 2000; Politis, 2008; Wiltbank et al., 2009). This emphasizes the importance of personal networks, instincts and hands-on involvement in the investment process, and highlights the role of trust, empathy and shared values

in the relationship between angels and entrepreneurs. However, it does not fully account for the collective dynamics and tensions that arise when angels invest together in a group setting, where the individual preferences and actions of members need to be coordinated and aligned with the overall goals and strategies of the group. On the other hand, theories of venture capital have mainly focused on the formal and institutional aspects of investing, such as the use of contracts, monitoring and staging to mitigate agency risks and optimize returns (e.g. Gompers & Lerner, 2001; Kaplan & Strömberg, 2003). These theories assume a clear separation between the investors (limited partners) and the managers (general partners) of the fund, and a highly structured and disciplined approach to deal sourcing, due diligence and portfolio management. However, they do not fully capture the informal and relational aspects of angel investing, where the personal involvement and value-adding of investors play a key role in the success of portfolio companies, and where the boundaries between investors and entrepreneurs are often blurred.

This theoretical gap presents an opportunity to develop new insights and frameworks that can better explain the nature and dynamics of angel groups as a distinct organizational form in the entrepreneurial finance landscape. The theoretical importance of understanding the hybridity of angel groups lies in its potential to advance our knowledge of how collective investing operates in practice, and how it differs from both individual angel investing and institutional venture capital (Kerr et al., 2014; Mason et al., 2016).

One key aspect of angel group hybridity is the need for coordination and alignment amongst individual investors (Bonnet et al., 2022). Unlike individual angel investing, where investors have full autonomy and flexibility in their investment decisions and activities, angel groups require a certain degree of coordination and alignment to ensure that the group's resources and expertise are effectively mobilized and deployed. This coordination and alignment can take various forms, such as establishing common investment criteria and processes, sharing information and deal flow, pooling funds and expertise and providing value-adding support to portfolio companies (Bonini et al., 2018). However, achieving effective coordination and alignment in angel groups is not a straightforward task, as it requires balancing the diverse interests, preferences and expectations of individual members with the overall goals and strategies of the group (Carpentier & Suret, 2015; Wirtz et al., 2020). This balancing act can create tensions and conflicts, such as disagreements over investment decisions, valuation and exit strategies, or free-riding and opportunistic behaviours by some members (Botelho & Mason, 2024). Understanding how angel groups manage these tensions and conflicts, and how

they create and maintain a shared sense of purpose and identity, can provide valuable insights into the dynamics of collective investing and the factors that influence its success or failure.

Another key theoretical aspect of angel group hybridity is the blurring of boundaries between investors and entrepreneurs. Unlike institutional venture capital, where there is a clear separation between the investors (limited partners) and the managers (general partners) of the fund, angel groups often involve a more direct and personal relationship between investors and entrepreneurs. Angel investors in groups typically take a more hands-on and value-adding approach to their investments, providing not only financial capital but also strategic advice, operational support and network access to their portfolio companies (Politis, 2008). This close involvement of angel investors in the entrepreneurial process can create a sense of shared ownership and responsibility, but it can also create challenges in terms of managing expectations, conflicts of interest and power dynamics between investors and entrepreneurs. By examining the specific ways in which angel groups navigate the tensions between informal and formal aspects of investing, and between individual and collective interests and actions, we can gain a more nuanced and realistic understanding of the challenges and opportunities involved in this form of investing.

The emergence of business angel groups as a hybrid organizational form in the entrepreneurial finance landscape presents a novel and complex research problem that challenges our existing theories and models of early-stage investing (Lerner et al., 2018). The hybridity of angel groups, which combines elements of both informal and formal investing, gives rise to a range of organizational tensions and challenges that are not fully captured by the existing literature on angel investing or venture capital. These tensions and challenges, such as the need to balance individual autonomy and collective coordination, and the blurring of boundaries between investors and entrepreneurs, require a more nuanced and integrative theoretical approach that can account for the heterogeneity and dynamics of angel groups (Mason et al., 2019; Bonini et al., 2019). This research problem provides the overarching context for two interconnected research questions that aim to shed light on different aspects of angel group investing. The first question focuses on the macro-level drivers of exit strategies in angel groups, examining how the interplay of financial capital, decision-making locus and formalization shapes the pursuit of different exit routes. The second question delves into the micro-level processes of resource mobilization and capability development in angel groups, exploring how these groups leverage their collective resources and

expertise to effectively implement their chosen exit strategies. By linking these two questions within the broader research problem of angel group hybridity and heterogeneity, this study aims to contribute to the development of a more comprehensive and grounded theory of collective investing that can inform both research and practice in the field of entrepreneurial finance (Block et al., 2018; Botelho & Mason, 2024).

1.2 Thesis Outline

This thesis comprises nine major chapters, beginning with this introduction, which outlines the study's subject matter and research objectives as delineated above.

Chapters 2 and 3 collectively present a narrative literature review. Chapter 2, the first part of this review, investigates the context of business angel groups. It starts with an overview of what business angels are, their role in the early-stage financing landscape, and the evolving trends that have led to the rise of angel groups. This chapter links the emergence of angel groups to their intention and capability of securing exits from investments. Chapter 3 extends the discussion exit strategies, integrating insights from strategic management literature. This integration offers a broader perspective on the formation and implementation of exit strategies. It also focusses on the organizing dimensions of angel groups. It discusses the two aspects through which angel groups in this study are measured, the locus of decision-making and formalization, and discusses their linking to strategy in past literature.

Chapter 4 provides an overview of the theoretical underpinning for this study, introducing the resource-based view and dynamic capabilities view. It includes an in-depth discussion, followed by the presentation of the initial research model and hypotheses.

Chapter 5 outlines the mixed-methods approach used in the study, combining a survey and a case study for complementary insights.

Chapter 6 and 7 present the analysis and discussion of the survey results, including descriptive analysis, factor analysis, cluster analysis, structural equation modelling, Kruskal-Wallis test, polynomial and linear regressions and related post-hoc tests, along with a discussion of the findings. Building on the insights from Chapters 6 & 7, Chapter 8 presents a case study of an angel

group, comprising interviews and a subsequent discussion based on the case study findings.

Chapter 9 offers a mixed-methods discussion and contribution to literature, synthesizing the results and discussions from both the survey and the case study to provide an enriched, holistic account and develop contributions.

2. Business Angels

The chapter begins with a comprehensive overview of the literature on business angels, emphasizing their vital role as providers of early-stage capital to new ventures. It then delves into the emergence of angel groups, where individual investors syndicate into groups with heterogeneous structures. These groups are generally characterized by a greater investment capacity and scope compared to individual angels, a topic that is discussed in detail.

The Chapter then proceeds by outlining the major theoretical perspectives that have been used in business angel literature thus far. Finally, I discuss the crucial role that successful exits play in angel investing, both as a means of generating returns for investors and as a source of funding for future investments, while also highlighting a gap in the literature concerning the study of the exit process.

2.1 Business Angels - Introduction and Definitions

During the 1980s, the economy of the United States underwent a transition from a declining manufacturing and industrial economy to an emerging entrepreneurial and innovation driven economy (Sohl, 1999). This shift served several implications on the nature of the economic drivers which had previously been dominated by large firms but were now increasingly taken over by small firms. A similar change was also observed in the European economy, leading to a revolution in the financing of small and medium business. One major driver of this change was angel investing.

Angel financing is defined as “informal venture capital-equity investments and non-collateral forms of lending made by private individuals using their own money, directly in unquoted companies in which they have no family connection” (Mason & Harrison, 2000). This definition specifically excludes friends and family money, also referred to as “love money”. Mason and Harrison (2000) argue that investments made by close relatives and friends are

based on considerations and criteria other than those used by those external investors, and therefore, should be excluded from the definition of angel investing. Business angels are high net worth individuals who invest a proportion of their assets in high-risk entrepreneurial ventures (Capizzi, 2015). The capital provided by angel investors can take the form of a one-time injection of seed money, or multiple rounds of financing structured as “series funding”.

Within the field of angel financing, two primary categories of investors have been identified: affiliated and nonaffiliated angel investors. Affiliated angels are individuals with whom the entrepreneur has a pre-existing relationship, such as business associates, suppliers, customers, employees, or even competitors. On the other hand, nonaffiliated angel investors are individuals who have no connection with either the entrepreneur or the business. These include lawyers and accountants, consultants, managers and any other high net-worth individual that the entrepreneur does not personally know. The literature on angel investing has also proposed various typologies of angel investors, ranging from five types - corporate, entrepreneurial, enthusiastic, micromanagement, and professional (Evanson, 1998) - to ten, such as the godfather, peers, cousin Randy, Dr. Kildare, corporate achievers, Daddy Warbucks, high-tech angels, the stockholder, and very hungry angels (Gaston, 1989). This diversity in typologies highlights the complexity and heterogeneity of angel investors and their investment behavior.

2.1.1 Early-stage Investment Financing

Within the field of entrepreneurial finance, angel investing is positioned as an intermediary source of funding between personal and familial sources, and venture capital (Mason & Harrison, 2000; Sohl, 1999). According to conventional wisdom, new ventures typically begin by raising capital from personal sources and investments from friends and family, commonly referred to as the "three-F's" - friends, family, and fools (Kotha & George, 2012). As these sources of funding become exhausted, entrepreneurs then turn to angel investors for larger investments. Subsequently, at later stages of the venture's development, entrepreneurs may seek additional capital from venture capital funds, for what is typically a larger investment. Empirical research supports this roadmap for financing, with studies showing that the majority of firms that secure venture capital financing have previously obtained angel investment (Madill, Haines & Riding, 2005; Van Osnabrugge, 2000).

There are a number of possible complementarities between angel investors and venture capitalists. In specific scenarios, angel investors and venture capitalists enjoy a position of power facilitated by their portfolio approach with regards to sharing information on deals that is inappropriate for the other party. Alternatively, angels may co-invest in deals with venture capitalists, thereby gaining the expertise of a professional investor, or albeit in relatively rare cases, even invest as a limited partner in a venture fund (Mason and Harrison, 2000). Furthermore, an investment by an angel investor serves as a signal to the venture capitalist that the entrepreneur is not likely to engage in opportunistic behavior, thereby mitigating potential moral hazard issues (Elitzur & Gavious, 2003) in future venture capital investments. Moral hazard "indicates a form of post-contractual opportunism caused by the unobservability of certain actions" (Becchetti, Bruni & Zamagni, 2020, p.204)

Angel investing also share similarities with venture capital in that both serve as financial intermediaries (Van Osnabrugge, 2000). However, unlike other forms of intermediaries such as banking or institutional investing, where the investors invest and then remain passive and receive management fees (Cumming & Johan, 2008), angel investing is characterized by active participation (Kerr, Lerner & Schoar, 2014). This is partly due to the high-risk nature of the investment. Similar to venture capital, angels invest in young firms, that have the potential for high returns, but also lack tangible assets. Angel investors, recognizing the importance of balancing high-risk, high-reward ventures against potential losses, often engage in frequent investments as a means to mitigate unsystematic or idiosyncratic risks (Xie, 2020). This strategy, a cornerstone of financial theory, posits that spreading investments across diverse ventures can significantly reduce the impact of the failure of any single venture on the overall portfolio's performance. The effectiveness of this approach in decreasing risk with an increase in portfolio size has been empirically supported by Devaney (2005) and Li and Zhang (2023), although the optimal portfolio size may vary depending on the investor's level of risk aversion. Similar to venture capitalists who mitigate risk by securing a seat on the board of directors, angel investors take an active role in the day-to-day operations of the businesses they invest in. This not only demonstrates their commitment to active engagement but also serves as a practical risk management strategy, reinforcing the importance of portfolio diversification (Landström & Sørheim, 2019; Wallmeroth, Wirtz & Groh, 2018). Furthermore, the engagement of angel investors in the companies post-investment underscores the high-risk nature of these ventures, akin to the practices observed in venture capital, where active involvement is crucial for

navigating the uncertainties inherent in young firms (Kerr, Lerner & Schoar, 2014)

In contrast to other financial investments that are traded on public exchanges, angel investing is characterized by its illiquidity, as there are no indices or secondary markets on which shares of angel investments can be bought or sold (Fenn & Liang, 1998). Additionally, angel investing suffers from the same information asymmetries as venture capital, but with one important difference. The differences in the risk profiles of angel investors and venture capitalists can be attributed to the fundamental structural differences between the two forms of early-stage investment (Berger & Udell, 2006). Both business angels and venture capitalists deal with risks inherent in early stage investing, such as market volatility, management quality, product viability among others (Wessendorf et al., 2019; Chaplinsky and Mukherjee, 2016; Jensen, 2002; Berger and Udell, 1998; Wald, 1999; Titman and Wessels, 1988). Angels typically invest their own personal funds in seed or early-stage deals (Van Osnabrugge, 2000), while venture capitalists invest capital raised from limited partners — often large institutions or pension funds (Dutta & Folta, 2016; Månsson & Landström, 2006) — in later-stage ventures. This distinction implies that angel investors act as principals, while venture capitalists are agents, acting on behalf of their limited partners, receiving management fees for their efforts. As a result, angel investors are exposed to both the potential benefits and risks of an investment, successful or not, while venture capitalists, due to the principal-agent relationship with their limited partners, may be shielded from the downside risk of failure.

2.2 Business Angel Groups

Individual angel investors may collude to forms groups that vary in structures. This heterogeneity among such structures led to past research lacking a holistic definition of angel groups for a long time. For example, “Network” has been used to refer to “business angel networks,” as mechanisms connecting investors with entrepreneurs seeking financing (Mason & Harrison, 1997). In contrast, Bonini et al., (2018) distinguish networks from groups, highlighting the less stringent obligations and engagement rules of network members, who are primarily responsible for identifying potential co-investors, negotiating, and generating their term-sheets. Sohl (2008) employs the term “portal,” which connotes online activity, to describe platforms such as the Small Business Administration's ACE-Net, a pioneer electronic angel/entrepreneur matching

service launched in 1996. “Syndicates” denotes the involvement of several independent investors in a specific company. “Associations” refer to member organizations of angel groups, as well as networks, portals, syndicates and associations. Finally, Mason (2015), considering all the above forms of operations, define ‘angel groups’ as which is the definition this research will employ: “a consortium of individual angels that collaborate to manage deal flow, process deals, and make their own investment decisions, at varying levels of size, formality and structure.”

2.2.1 Business Angel Groups versus Individual Business Angels

The rise of angel groups can be traced back to individual angel investors’ tendency to form syndicates. This inclination aimed to enhance their investment capacity and reach, now ranging between €250,000 and €500,000. Such ranges are frequently not addressed by venture capital funds, as these funds have transitioned to investing larger capital sums (Sohl, 2019). This shift in the investment landscape pushed individual angels to surpass their limitations, ensuring they remain competitive (Mason & Harrison, 2015).

It is vital to differentiate between individual angels and angel groups. While individual angels commonly invest in seed or very early-stage companies — 50-75% of them investing in companies within their first two years of operation (Sohl, 2004) — angel groups often align with early-stage venture capitalists. These groups invest in firms that are in the initial development and expansion phases (Morrissette, 2007; Sahlman, 1990).

The investment size also diverges between the two. As noted by Van Osnabrugge (2000), individual angels typically invest between €25,000 and €150,000, a sum considerably smaller than that of angel groups (Shane, 2008). Angel groups have the capacity and infrastructure to procure follow-on funding when required. For instance, mature angel markets like Scotland (UK) report that 60-80% of their investments are follow-on (Mason and Harrison, 2015). Conversely, individual business angels are often less inclined to make follow-on investments (Hellmann, Schure & Vo, 2021). Historically, companies that have maximized their angel investment sought additional financing elsewhere, with venture capital funds being a primary source (Mason, Botelho & Harrison, 2019). This scenario can disadvantage individual business angels. A stark example occurred during the dot.com crash of the 2000s. Individual angels, who initially invested, faced write-offs on their investments from the dot.com boom, resulting from overvalued ventures influenced by venture capital funds. Consequently, many angels sought to

invest independently as a risk-mitigation strategy (GP Capital, 2004; Mason, 2007).

Besides the previously mentioned distinctions between individual angels and angel groups, it is crucial to highlight that angel groups also tackle the market visibility issue, a notable limitation for individual angels. Individual angels often maintain a low profile, predominantly relying on word-of-mouth to discover investment opportunities (Mason, Botelho & Harrison, 2019). Such an approach can hinder their visibility in the market, affecting both their deal-screening processes and potential investee companies' ability to find them. Consequently, their deal flow becomes highly contingent on either chance or their established network. This reliance can escalate search costs for both investors and investees, leading some to retreat from the market altogether (Wetzel, 1983). In contrast, angel groups proactively amplify their market visibility by promoting themselves through investor portals, websites, and networking events. They forge specialized networks, partnerships, and participate in entrepreneurship conventions like the US Bend Venture Conference and the San Diego Angel Conference. Such avenues enable investment seekers to reach out angels directly (Mason and Harrison, 2015). Through these endeavors, angel groups refine their routines for managing investment inquiries, screen opportunities, and formulate standardized investment documents (Kerr, Lerner & Schoar, 2014). This streamlining decreases search costs for entrepreneurs, boosting their chances of securing investments.

Past literature indicates that individual business angels do not prioritize exits in their investment strategy (Van Osnabrugge & Robinson, 2001; Gray, 2011). Their investment ethos often aligns with the belief that "good investments will inevitably find exits" (Mason and Botelho, 2016, p. 159). Such a stance is magnified due to their close bond with investee companies, resulting from early-stage investments. This close and sometimes emotional relationship with entrepreneurs makes suggesting exits a delicate matter (Johnson & Sohl, 2012). Historically, when angel activity was seen more as a pastime, epitomized by 'hot button' investments (Wetzel, 1983), this approach sufficed. Before the dot-com crash of the 2000s, venture capital firms often provided follow-on funding to angel-backed ventures and managed exits. However, given contemporary shifts in the capital market, including escalating startup valuations (Christensen, Armstrong & Perrino, 2016) and larger venture capital fund investments (Ning, Wang & Yu, 2015), coupled with emerging financing sources like crowdfunding and initial coin offerings (Lyandres,

Palazzo & Rabetti, 2022; Civardi et al., 2023), the traditional approach adopted by individual angels might no longer guarantee successful exits.

The literature indicates that angel groups tend to embrace a more professional approach towards investment opportunities. This is characterized by the adoption of formal investing processes and maintaining a more arms-length relationship with investee businesses (Ibrahim, 2008). Such an approach might reduce the likelihood of developing emotional attachments to investments and consequently diminish the opportunity to derive psychological income (Mason & Botelho, 2016). Observations also suggest that angel groups invest more frequently, make larger investments, and rely less on venture capital funds for follow-on investment. This increased investment frequency enhances the probability of funding a business up to the point of an exit (Croce et al., 2020). Furthermore, exits are essential for angel groups, both to provide existing members with liquidity for new investments and to attract new investors (Mason, Botelho & Harrison, 2019). Thus, it becomes crucial for fee-based intermediaries to showcase that the investment opportunities presented to their members possess the potential to yield competitive financial returns through exits.

In conclusion, the nuances and distinct operational and strategic differences between angel groups and individual angels underscore the growing significance of angel groups within the entrepreneurial finance landscape, meriting deeper exploration. Angel groups, through collaborative efforts, amplify their investment capacity, filling the funding void often left untouched by venture capital funds. This collaboration can propel the growth of ventures that might otherwise remain undercapitalized. Their augmented financial commitment and inclination towards follow-on funding not only extend enhanced financial support to startups, but also ensure consistent investment during the uncertain early phases of a venture's trajectory.

Moreover, the structured and professional approach of angel groups to investments underlines a systematic methodology, offering valuable insights to both entrepreneurs and independent angels. Their concerted initiatives to improve market visibility and craft efficient procedures for processing investment inquiries have refined the angel investing process, benefitting both the investor and entrepreneur camps.

Lastly, the evolving focus on securing successful exits illuminates the shifting priorities within the angel investment domain. Angel groups' stance on this matter sheds light on how early-stage investments are acclimating to the

evolving capital market dynamics, emphasizing the criticality of delivering competitive financial returns to allure and retain investors.

Therefore, the unique characteristics, strategies and impacts of angel groups make them an essential area of focus for research in entrepreneurial finance. By exploring this relatively uncharted territory, researchers can broaden our understanding of the diverse mechanisms that drive startup funding and contribute to the development of effective investment strategies in the entrepreneurial ecosystem.

2.2.2 Syndication among Business Angels

Angel groups strategically employ syndication as a core component of their investment approach. This strategy not only boosts the group's performance in the high-risk startup environment but also plays a critical role in improving their chances of survival and success (Harrison, Botelho & Mason, 2016). Given the centrality of exits in angel investing (Kerr, Lerner & Schoar, 2014), understanding how syndication influences the exit process becomes pivotal.

Syndication, as utilized by various investors including venture capital funds and private equity firms, serves as a powerful tool to amplify the performance of investments. This is achieved through pooling unique resources and knowledge and leveraging the collective expertise of the syndicate members. Such collaborative efforts enable the building of robust networks with key industry players like investment banks and underwriters, thereby facilitating smoother and potentially more profitable exit routes (Pollock, Porac & Wade, 2004).

Furthermore, syndication is not merely about resource pooling; it strategically involves selecting partners who contribute significantly to post-investment management. This collaboration enhances the overall value of the investee ventures, often culminating in more successful exits (Bellavitis, Kamuriwo & Hommel, 2017; Lockett et al., 2002; Manigart et al., 2006). The certification provided to ventures through syndication (Megginson & Weiss, 1991) further adds credibility, potentially boosting the exit value (Jääskeläinen, 2012).

Various empirical studies reinforce the positive impact of syndication on venture performance. The size and composition of the syndicate have been found to correlate with higher returns and a greater probability of successful exits (Brander, Amit & Antweiler, 2002; Das, Jo & Kim, 2011; Giot & Schwienbacher, 2007; Nahata, 2008; Dimov & De Clercq, 2006). This evidence underscores the strategic advantage that angel groups gain through

syndication, not only in terms of financial returns but also in enhancing the likelihood of successful exit strategies.

The role of syndication in bolstering angel group performance, particularly concerning exit strategies, is crucial and warrants comprehensive exploration. Jääskeläinen (2012) underscores the need for further research in understanding how syndication motives correlate with investment performance, especially in the context of exits. This gap in the literature highlights an opportunity to delve deeper into the strategic benefits of syndication in angel investing. Syndication, in this context, is not just about pooling financial resources. It represents a strategic alignment that offers angel groups access to a broader spectrum of expertise, funds, and opportunities. By collaborating with other compatible members, angel group members can compensate for any internal deficiencies, be it in skills or connections, thus elevating the quality of their investment decisions (Dimov & Milanov, 2010; Manigart et al., 2006). Such a collaborative approach can significantly enhance deal flow quality, investment management capabilities, and overall efficiency in handling investments.

Furthermore, syndication serves as an effective means to distribute the workload and manage resource commitment across various investments. This strategic distribution allows angel groups to maintain a more extensive and diversified investment portfolio, effectively reducing the risk inherent in early-stage investments (Cumming, Fleming & Suchard, 2005; Kerr, Lerner & Schoar, 2014; Mason, Botelho & Harrison, 2019). The diversification resulting from syndication not only mitigates the exposure in individual deals but also adds an extra layer of risk management by providing a broader range of investment opportunities (Mason et al., 2019; Lockett and Wright, 2001; Wilson, 1968).

While existing research on angel groups touches upon the concept of syndication, there remains a notable gap in understanding how these groups operationalize the pooling of resources, particularly financial capital, and its impact on their exit strategies. This gap extends beyond the academic realm and has practical ramifications for the operational efficacy of angel groups in the fast-paced and uncertain domain of early-stage investing.

The central question then becomes: how do angel groups leverage these collective resources, such as financial capital, amassed through syndication, to navigate and execute effective exit strategies? This is where the Resource-Based View (RBV) and Dynamic Capabilities View (DCV) become relevant, in shedding light on how angel groups, as a collective of investors, synergize and reconfigure their financial and other resources, in pursuing exit strategies.

Nevertheless, to understand the potential role of RBV and DCV in the context of angel financing, it is first important to identify which theoretical perspectives have been prevalent in this field so far.

2.3 Theoretical Perspectives used in Angel Literature

Business angel research stands as a dynamic and progressively evolving field. Historically, it has leaned more towards empirical observations than foundational theoretical constructs. Supporting this, Landström and Mason (2016) reveal in their comprehensive review of business angel literature that a mere 18% of the studies they examined hinged on a theoretical perspective when deliberating on business angels. Within this context, I delve into the theoretical frameworks that have shaped past inquiries, to critically discuss how angel investors have been theoretically positioned.

Existing theoretical frameworks such as Agency Theory, Signalling Theory, Social Capital Theory, Stakeholder Theory, and the Theory of Planned Behaviour (TPB) have indeed contributed valuable insights, but they have largely focused on specific aspects of angel investing, leaving vast areas unexplored. Therefore, despite the diverse use of these theories, the complexity of angel investing has not been sufficiently captured by literature, hence prompting the need for newer perspectives in future research.

2.3.1 Agency Theory

Agency theory, stemming from the foundational work of Jensen and Meckling (1976), offers a lens to examine the relationship dynamics between business angels, as principals, and entrepreneurs, the agents. The agent, acts for, on behalf of, or as representative for the other, designated the principal, in a particular domain of decision problems (Ross, 1973, p.134). In this sense, business angels represent the principal faced with the challenge of information asymmetry, while entrepreneurs assume the role of the agent, who possesses greater knowledge about the investment (Collewaert et al., 2021). Agency Theory posits that there is an inherent information asymmetry between shareholders (principal) and managers/entrepreneurs (agent), because shareholders do not know how managers will act once they are in positions of power (Jensen, 1996; Jensen and Meckling, 1976; Ross, 1973). Within this theoretical landscape, business angels emerge as vigilant navigators, diligently

addressing potential misalignments of interests and informational disparities with their entrepreneurial counterparts.

Research grounded in this theory has shed light on the practices and strategies business angels employ. For instance, Van Osnabrugge (2000) paints a comparative picture, highlighting the differences in risk-mitigation practices between business angels and venture capitalists. The former, it is suggested, tend to adopt a less formalized approach, especially in areas of due diligence and post-investment monitoring. Delving deeper into the mechanics of the relationship, Kelly and Hay (2003) explore the contractual intricacies between angels and entrepreneurs, demonstrating how the nature of contracts evolves based on the characteristics of the involved parties and the overarching deal context. Another layer of this dynamic is unveiled by Fiet (1995), who presents insights into how venture capitalists—akin to business angels—navigate the challenges of information asymmetry, especially when reliant on third-party informants.

Agency theory, when applied to business angels, tends to portray them as adept navigators of risk, emphasizing their role in addressing agency concerns and potential interest misalignments (Van Osnabrugge, 2000; Fiet, 1995). Within this framework, angels are also portrayed as relational entities, emphasizing contractual elements within their interactions with entrepreneurs. However, Landström (1992) critiques this lens, suggesting that agency theory might not fully encapsulate the intricate dynamics between private investors and entrepreneurs.

This is because the nuanced relationship between these investors and entrepreneurs extends beyond mere risk management. This relationship encompasses mentoring, networking, and strategic guidance, suggesting a deeper, multifaceted bond (Politis, 2016). Consequently, the theory's economically rationalistic lens often overlooks the potent emotional and social dynamics at play. Furthermore, casting entrepreneurs as primarily profit-driven oversimplifies their diverse entrepreneurial motivations, which could range from seeking validation or financial returns, to pursuing passions or achieving broader societal impact.

Therefore, the portrayal of angels through agency theory risks oversimplifying them as mere transactional entities operating in an environment riddled with informational asymmetry. This narrow focus risks sidelining the broader nuances of the angel-entrepreneur dynamic. The resultant narratives and research questions, though valuable, could inadvertently restrict our

understanding of angel investors, potentially omitting the myriad of interactions, motivations, and strategies they employ.

In essence, to holistically understand business angels, we may need to transcend the confines of agency theory, adopting a more comprehensive theoretical framework that recognize angels as multi-dimensional entities with a spectrum of interests and objectives, rather than just risk-mitigating agents.

2.3.2 Signaling Theory

Signaling theory, conceived by Spence (1973), revolves around the premise that individuals or firms emit signals to convey information about their qualities or intentions, especially in situations marked by information asymmetry. These signals play a pivotal role in guiding recipients to make well-informed decisions by curtailing uncertainty. Originating in the labor markets, where job seekers signal their competence through educational credentials, this theory has found applicability in diverse domains, including business angel investments. Here, entrepreneurs project signals about their venture's merit and promise to potential investors (Prasad et al., 2000; Blaseg and Hornuf, 2023). While signaling theory has substantially enriched our comprehension of investor behavior and decision-making, its current application exposes some gaps, suggesting areas for further exploration.

One fundamental issue with the application of signaling theory in angel investment research is its tendency to oversimplify the complex nature of the signaling process. Many studies focus on a limited set of signals, such as the entrepreneur's education, experience, or the venture's patents (Prasad et al., 2000; Audretsch et al., 2012; Ahlers et al., 2015), implicitly assuming that these signals are universally important and interpreted consistently by all angels. However, this approach neglects the heterogeneity among angels in terms of their backgrounds, experiences, and investment philosophies (Avdeitchikova, 2008; Mitteness et al., 2012). Different angels may attach varying weights to different signals, or even interpret the same signal differently based on their unique perspectives. By not adequately accounting for this diversity, signaling theory research may paint an overly simplistic picture of how angels evaluate investment opportunities.

Moreover, signaling theory tends to treat signals as static and unidirectional, focusing primarily on the signals sent by entrepreneurs to angels. However, in reality, the signaling process is dynamic and interactive, with angels also sending signals to entrepreneurs, such as their level of interest, expertise, or

investment approach (Brush et al., 2012; Drover et al., 2017). Furthermore, signals can evolve over time as the relationship between the angel and the entrepreneur develops, with new information emerging and trust being built (Bammens & Collewaert, 2014). By not fully capturing this dynamic and reciprocal nature of signaling, research may provide an incomplete picture of how angels and entrepreneurs navigate the investment process.

Another limitation of signaling theory in angel investment research is its emphasis on observable and measurable signals, such as patents, prototypes, or financial projections (Audretsch et al., 2012; Lukkarinen et al., 2016). While these signals are undoubtedly important, they may not fully capture the tacit and intangible aspects that often influence investment decisions, such as the entrepreneur's passion, the team's chemistry, or the venture's vision (Huang & Pearce, 2015; Hsu et al., 2014). These soft factors, which are difficult to quantify and communicate through formal signals, may play a crucial role in how angels assess the potential of an investment opportunity. By focusing primarily on observable signals, signaling theory research may overlook the significance of these intangible elements.

The inherent limitations of signaling theory can lead to a portrayal of angel investors that might not fully capture their multifaceted nature. Currently, the theory often depicts angels primarily as interpreters of entrepreneurial cues or as conveyors of reputational signals (Kafeshani, Rezvani, Chitsazan, and Kazemi, 2018). Such a portrayal risks oversimplifying these investors, potentially reducing them to transactional entities.

In conclusion, while signaling theory has been a valuable lens for examining angel investing, its current application in research has several limitations. By oversimplifying the signaling process, treating signals as static and unidirectional, emphasizing observable signals over tacit factors, and focusing primarily on intentional positive signals, signaling theory research may not fully capture the complexity and nuances of how angels evaluate and decide on investment opportunities. To develop a more comprehensive understanding of angel investing, researchers should consider complementing signaling theory with other theoretical perspectives.

2.3.3 Social Capital Theory

The Theory of Social Capital, rooted in the work of Coleman (1988) and Putnam (2000), offers an interesting lens to examine the influence of relationships, affiliations, and networks. This theory suggests that these social

ties are not mere constructs, but tangible assets acting as reservoirs of value and conduits of opportunities, especially in settings characterized by uncertainty and information asymmetry.

One of the key strengths of social capital theory in this context is its ability to illuminate the ways in which entrepreneurs leverage their social networks to access informal venture capital (Sætre, 2003) and how angel investors utilize their social connections to identify and evaluate potential investment opportunities (Sørheim, 2003). These studies highlight the crucial role that relational assets, such as interpersonal ties and mutual trust, play in facilitating the flow of information and resources in the early stages of financing.

However, these studies, while richly depicting angel investors as intertwined within social fabrics and reliant on trust and reciprocity, might overlook some nuances. By focusing predominantly on relational assets—the interpersonal ties and mutual trust—the theory could sideline other facets of angel investing. Angel investors are not just passive recipients within their networks; they are strategic entities often making decisions based on rational economic calculations, comprehensive market analyses, and technological insights. The focus on interpersonal aspects, while critical, might inadvertently underplay the role of tangible resources, skills, and other non-relational assets in their arsenal. As indicated by researchers like Bonnet and Wirtz (2012) and Mason and Harrison (2000), is often the combination of relational and non-relational assets that strengthens an angel investor's approach, particularly in the unpredictable environment of early-stage ventures.

Moreover, the application of social capital theory in angel investment research often treats social networks as static and homogeneous, overlooking the dynamic and diverse nature of these relationships. Social ties can vary in terms of their strength, quality, and content (Granovetter, 1973; Burt, 1992), and these differences can have significant implications for how angels access and interpret information, as well as how they influence and support their portfolio companies. For example, weak ties may provide access to novel information and opportunities, while strong ties may facilitate trust and cooperation (Granovetter, 1973).

Another limitation of social capital theory in angel investment research is its emphasis on the benefits of social networks, often overlooking the potential risks and costs associated with these relationships. While social ties can provide access to valuable resources and support, they can also create obligations, expectations, and constraints that may limit an angel's flexibility and objectivity (Uzzi, 1997).

Finally, social capital theory research in angel investing often assumes that social networks are the primary or dominant factor shaping investment decisions and outcomes. However, this assumption may not fully account for the role of other important factors, such as market conditions, regulatory environments, or individual investor characteristics (Wetzel, 1983; Mason & Harrison, 1995). For example, in times of economic uncertainty or market turbulence, angels may rely more heavily on their own expertise and due diligence, rather than their social networks, to assess and manage investment risks.

In conclusion, while social capital theory has provided valuable insights into the role of social networks and relationships in angel investing, its current application in research has several limitations. By overemphasizing the importance of social ties, treating networks as static and homogeneous, focusing primarily on the benefits of social capital, and assuming the dominance of social factors, social capital theory research may not fully capture the complexity and nuances of angel investment decision-making.

2.3.4 Theory of Planned Behavior

The Theory of Planned Behavior (TPB), initially conceptualized by Ajzen in 1991, has been a cornerstone in understanding human behavior, suggesting that actions stem from pre-existing intentions, which are molded by an individual's attitudes, perceived societal norms, and their belief in their ability to execute the behavior. Venturing into the realm of angel investing, researchers have employed this theory as a lens to decipher the decision-making processes of business angels.

In studies like those by Botelho, Harrison, and Mason (2021), the intricacies of angel investors' exit strategies are explored through the lens of the Theory of Planned Behavior (TPB). These findings characterize business angels as methodical entities, with intentions to exit an investment shaped by their attitudes towards such exits, the subjective norms within the investment community, and their perceived behavioral control over executing these strategies. Similarly, Mitteness, Sudek, and Baucus (2005) investigate the determinants of micro-angel investments through TPB, illustrating how angels' investment propensities are influenced by individual attitudes, societal norms within their networks, and their perceived ease or challenges of making these investments.

This portrayal, insightful as it is, might suggest a rationalistic view, reminiscent of the "rational man" model in macro-economics, where decision-making is perceived as a series of logical, well-calculated steps based on clear intentions. However, TPB offers a more nuanced understanding of rationality, encompassing attitudes, subjective norms, and perceived control, thus acknowledging the complexity of decision-making processes. Yet, this framework, primarily focused on individual behavior, may not fully capture the dynamics at play within angel groups, where collective decision-making introduces a system-level complexity that extends beyond the scope of TPB. Studies from Fili (2014) and Franić and Drnovšek (2019) remind us that decisions in the angel investing world are not solely driven by rationality but are also influenced by emotions and instincts. While TPB thrives in contexts of deliberate behavior, the intricate domain of angel investments, fraught with complexities and influenced by myriad external and internal factors, suggests a limit to the theory's applicability. Notably, the TPB-centric narrative may overlook the contribution of angels' tacit knowledge and experiential wisdom, which play crucial roles in investment decisions. These nuances, along with the emotional underpinnings of some decisions, challenge the portrayal of angels as exclusively rational actors in the investment arena, highlighting a gap where TPB might not fully account for the collective and often nuanced decision-making processes within angel groups. Furthermore, the focus of TPB is on individual attitudes, subjective norms, and perceived behavioral control; However, angel groups operate as collective entities, where interactions, shared goals, and group decision-making introduce complexities beyond individual behaviors. Thus, studying angel groups necessitates a broader analytical lens that encompasses the collective dynamics and interpersonal relationships inherent in group contexts.

2.3.5 Conclusions on Theoretical Perspectives used in Angel Literature

In conclusion, the theoretical perspectives that have predominantly shaped our understanding of angel investing, namely Agency Theory, Signaling Theory, Social Capital Theory, and the Theory of Planned Behavior, have each provided valuable insights into various aspects of angel decision-making and behavior. However, a critical examination of these theories reveals that they largely focus on the transactional, informational, and relational dimensions of angel investing, leaving a significant gap in our understanding of the resource-based factors that play a crucial role in this domain.

The distinctive characteristics and dynamics of angel groups call for the development of new frameworks that specifically address the collective and synergistic aspects of angel investing. Such frameworks should consider the interplay between individual and group-level decision-making processes and the role of collective expertise and network resources in investment outcomes.

2.4 Exit Strategies in Angel Groups

Existing literature, including studies on venture capital funds, investment firms specializing in startups and business angel investors, highlights the importance of exits in the realm of equity investment. As per Cumming and MacIntosh (2001), angel groups are included under the umbrella of equity investments, similar to that of venture capital funds, which invest in young, unlisted firms that lack the financial means to pay dividends or interest. As a result, most of these investments are expected to generate returns through capital gains. Understanding the mechanisms by which exits are accomplished is critical to comprehending the exit process as a whole. The following lists several reasons why exits are crucial for these investors:

1. Realization of investment: exits provide investors with the chance to liquidate their investments and attain returns for their organizations. In some angel groups and venture capital firms, achieving a competitive return on investment is the ultimate objective and is necessary to maintain their financial viability (Mason, Botelho & Harrison, 2019; Sahlman, 1990).

2. Redeployment of capital: exits enable angel groups and venture capital funds to recycle the capital from a successful investment into new opportunities, keeping their deal flow active and augmenting their ability to make future investments (Kerr, Lerner & Schoar, 2014; Mason, Botelho & Harrison, 2019).

3. Credibility in the market: successful exits enhance the credibility and reputation of investors, which - in turn - attracts more investment capital and better quality deal flow (Hochberg, Ljungqvist & Lu, 2007).

4. Proof of concept regarding strategy: successful exits serve as validation of the angel group’s and venture capital firm’s investment

process and exit strategy. The failure of past strategies can lead to the emergence of new alternatives, while successful strategies are retained and replicated in future investments (Papagiannakis, Voudouris & Lioukas, 2014).

5. Network effect: portfolio companies that secure exits can create a network of successful entrepreneurs, who can provide valuable connections and offer synergies to the investor firms. This network also facilitates deal flow and offers new investment opportunities, among other benefits (Abell & Nisar, 2007).

The upcoming sections delve into literature examining exits within the realm of angel investors and venture capital funds, aiming to gain an understanding of the extent to which exits have been studied.

2.4.1 Limited Focus on Exits in Angel Literature

Expanding upon the current literature on business angel investments, which predominantly centers on the decision-making process for investments, it becomes evident that the exit process, encompassing how investments are sold or divested, has received considerably less attention. While the focus on investment decision-making is well-documented (Brush, Edelman & Manolova, 2012; Clark, 2008; Feeney, Haines & Riding, 1999; Lumme, Mason & Suomi, 1996; Maxwell, Jeffrey & Lévesque, 2011), the intricacies and strategic considerations of exits remain less explored.

The emphasis on investment decisions mirrors the priorities of business angels, who often view the exit as a secondary concern. Research across the United States and Europe indicates that exits are often an afterthought in the investment process. Studies reveal a lack of clarity and planning regarding exit routes, timing, and strategies at the time of initial investment (Gaston, 1989; Harrison, Botelho & Mason, 2016; Landström, 1993; Lumme, Mason & Suomi, 1996; Wetzel, 1983). This finding is particularly striking in the work of Van Osnabrugge and Robinson (2001), where “potential exit routes” were ranked low among investment criteria by angels, coming in at 24th out of 27.

This trend highlights a potential disconnect in the investment approach of business angels. While adept at assessing and entering investments, their strategies for exit, a critical component of the investment lifecycle, appear less defined. This gap in strategic exit planning could have significant implications for the overall success and sustainability of their investments. It raises

questions about the factors influencing exit strategies and how these decisions are aligned with the initial investment goals and market dynamics.

Furthermore, the literature's limited focus on exits suggests an opportunity for deeper exploration into how business angels navigate this crucial phase. Understanding the decision-making processes, criteria, and challenges related to exits could provide valuable insights into the broader investment strategies of angel investors. Such an understanding could inform both theoretical perspectives and practical approaches to angel investing, enhancing the efficiency and effectiveness of their investment activities.

2.4.2 The Choice of Exit Routes Available

The selection of an appropriate exit strategy is crucial, as different exit routes offer varying levels of risk and reward, significantly impacting the final outcome of the investment. Earlier research, such as that by Birley & Westhead (1994), has categorized exit routes, encompassing sale to an independent party, to another business, to management or employees, public quotation, and liquidation. Subsequent studies by Kato, Onshi and Honjo (2022), Mathisen et al. (2022), and Hohen and Schweizer (2021) have corroborated these findings.

Expanding upon these conceptualizations, the current study investigates two distinct exit routes: (1) Initial Public Offering (IPO) and (2) Trade sale, which includes acquisition, employee buyout, and independent sale.

IPOs are the process by which a private company goes public, issuing shares of stock for the first time to investors (Kim and Ritter, 1999; Aggarwal et al., 2022). This exit strategy presents several advantages for angel groups. Firstly, IPOs often provide a substantial return on investment, as the market value of a company typically increases significantly after going public (Ritter and Welch, 2002). This increased valuation can result in substantial profits for early-stage investors like angel groups. Additionally, IPOs offer liquidity for investors, as the shares can be readily traded in the public market (Carter et al., 2011). This enables angel groups to cash out their investments and reinvest in other promising startups. However, the IPO process is complex, time-consuming, and costly (Gao, Ritter, & Zhu, 2013). Furthermore, not all companies are suitable for going public due to regulatory requirements, market conditions, and business models (Bradley et al., 2004; Espenlaub et al., 2012; Byard et al., 2021). The legal requirements for IPO listings are significant, influencing capital costs and positing legal challenges (Wonglimpiyarat, 2009).

In contrast, trade sales entail selling a company or its assets to another business entity (Giot and Schwienbacher, 2007) and encompass acquisitions, employee buyouts, and independent sales. The investors looking to sell their firm typically reach out to a business broker, who then markets the firm to potential buyers (Krukowski and DeTienne, 2022; Zahorsky, 2005). Acquisitions are the most prevalent form of trade sale, with larger companies often acquiring smaller ones for their technology, talent, or market share (Cloodt, Hagedoorn, & Van Kranenburg, 2006). This exit route can be appealing for angel groups, as it typically results in a more expeditious and predictable return on investment compared to IPOs (Cumming & Johan, 2013), as well as offering strategic benefits for the acquiring company (Hitt, Ireland, & Hoskisson, 2016). This type of exit is low risk because if the firm does not sell in the market, the investors incur minimal costs, and is simple as the broker manages the details, allowing the investors and management to focus on the venture.

Employee buyouts and independent sales are other types of trade sales, albeit less frequent than acquisitions. Employee buyouts involve the collective purchase of a company by its employees, providing an exit opportunity for angel investors (Chaplinsky et al., 1998), while independent sales involve selling the company to a third party, such as a private equity firm or another investor group (Cumming & Johan, 2013). Although these exit routes may not yield the same level of return as IPOs or acquisitions, they remain advantageous for angel groups looking to divest their investment and minimize risk.

The choice between IPOs and trade sales carries implications for a company's governance, management, and future trajectory (Jain and Tabak, 2008; Moore et al., 2012). IPOs often involve entrepreneurs retaining some control over the company, while trade sales frequently result in a complete exit or a transfer of control to the acquiring firm. Other factors like competition, information asymmetry, pre-IPO trajectory and control benefits of the company post-IPO also significantly influence the choice between IPO or a trade sale (Bayar and Chemmanur, 2010; Alavi et al., 2008).

The selection of an exit strategy for angel investors is contingent upon the market context in which they are situated. Existing research demonstrates that in the United States market, initial public offerings (IPOs) are the preferred exit strategy, attributable to prevailing regulations and market tendencies (Brau, Francis & Kohers, 2003). IPOs also serve as a strategic milestone, marking a new phase where the company achieves a validated valuation and opens up new growth avenues (Chod and Lyandres, 2011; Chiu and Sharfman, 2011). In contrast, the more conservative European markets favor exit through

mergers, acquisitions, or trade sales over IPOs (Lemley and McCreary, 2021; Cumming, 2008; Jeng & Wells, 2000). Trade sales or acquisitions can lead to resource complementarity (Grimpe and Hussinger, 2014; Harrison et al., 2001), potentially resulting in greater synergies and improved long-term firm performance.

Gao, Ritter & Zhu (2013) propose an alternative rationale for the preference of acquisitions and trade sales as exit strategies, positing that a gradual structural shift favoring larger firms over smaller ones has transpired in recent decades (Ritter, Signori & Vismara, 2013). In the context of globalization and advancements in communication technology, the imperative to achieve scale expeditiously has intensified. As a result, the strategy of growing independently and pursuing an IPO becomes less appealing compared to acquisition by a large firm capable of rapidly exploiting innovation (Gao, Ritter & Zhu, 2013; Liu & Ritter, 2011).

Both IPOs and acquisitions entail risk and complexity but promise the prospect of elevated financial returns (Babich & Sobel, 2004). Acquisitions, in particular, are deemed an attractive exit strategy due to the premiums conferred upon the exiting entrepreneur (Haunschild, 1994). For example, between 2006 and 2007, pursuing an acquisition was a lucrative exit strategy, as middle-market transaction multiples reached historical heights owing to robust demand and scarce supply (Cotei & Farhat, 2018). Consequently, IPOs and acquisitions are appealing in terms of the conventional risk-reward relationship, yet they also present heightened risk and complexity compared to alternative exit strategies. Although similar, IPOs and acquisitions diverge in terms of their processes and underlying motives for exit. IPOs are frequently regarded as a means of raising capital for growth, with entrepreneurs retaining some degree of control and diluting their equity over a more extended period (Klausner et al., 2022; Kutsuna et al., 2016; Hartzell, 2004; Daily & Dalton, 2003). In contrast, acquisitions are generally perceived as a comprehensive exit strategy (Lemley and McCreary, 2021).

The importance of exits for both investors, such as angel groups, and investee firms has been acknowledged and addressed in this section. Consequently, this research aims to further explore the topic by scrutinizing the exit process in angel groups. The exit process in angel groups is a critical area of inquiry, as it enables a deeper understanding of the mechanisms by which investors divest from their investments over an extended period.

2.4.3 Varied Approaches to Exits by Business Angels

The complex landscape of exit strategies by business angels presents a multifaceted interplay of intentions and tactics, where conflicting evidence and diverse approaches lead to an inconclusive understanding. This richness in perspectives and contradictions across various studies underlines the intricate nature of exit intentions in the angel investment realm.

Adding to the complexity is the regional perspective introduced by Carpentier and Suret (2014), who uncover distinct exit perspectives shaped by regional economic conditions in Canada. Their findings resonate with those of Dibrova (2016), who focuses on the Ukrainian context, emphasizing the challenges faced by angel investors in realizing successful exits. Both studies collectively suggest that exit strategies are not monolithic but are influenced by broader socio-economic contexts (Carpentier and Suret, 2014; Dibrova, 2016).

Botelho et al. (2015) emphasize the importance of exit considerations in the initial screening of investment opportunities. They argue that exit is not merely a terminal event but rather a fundamental criterion that shapes investment choices. This perspective aligns exit strategies with the investment decision-making process itself, reflecting a strategic approach to exits that is inherently linked to the very nature of angel investing (Botelho et al., 2015).

From a financial returns' perspective, Mason and Botelho (2016) provide an illustrative picture of the varied nature of exits. They highlight that successful exits are rare, with many investments resulting in a total loss. This complexity in exit outcomes accentuates the multifaceted nature of exit strategies, indicating that the intention to exit is not merely guided by potential gains but also entails a consideration of inherent risks. Considering the difficulty of achieving successful exits, individual angels often give little thought about exits, do not have exit plans at the time of investing and are relaxed about the timing of the exit (Wetzel 1981; Gaston1989; Harrison and Mason 1992; Landström 1993; Mason and Harrison 1994; Lumme et al. 1998; Harrison et al.2016).

Building on this observation, the lack of clear exit plans and relaxed attitudes towards exits may be attributed to the inherent constraints faced by individual angel investors in terms of bargaining power and resources. Unlike venture capitalists or institutional investors, angel investors often lack the structural mechanisms, influence, and resources to actively pursue and orchestrate exit strategies (Carpentier and Suret, 2014; Mason and Botelho, 2016). Their investment positions are commonly minority stakes, limiting their ability to dictate the terms of exit. Moreover, angels' focus on early-stage ventures,

characterized by uncertainty and lack of established market presence, further complicates their ability to plan and execute exits (Collewaert, 2012; Dibrova, 2016). This limited influence and constrained resource base create a scenario where exits become more opportunistic rather than strategic, reflecting the realities of angel investing, where the path to exit is not only uncertain but often beyond the direct control of the individual investor.

However, empirical and practitioner literature has captured a growing wave of professionalization of angel investing in the form of angel groups that give more attention to the exit (Mason et al., 2013, 2016; Peters, 2009; McKaskill, 2009; Mason et al., 2015). This strand of literature assumes that this trend towards angel groups is a response to the limitations faced by individual angels in pursuing exits. Members of these groups often have a wide range of industry backgrounds, including entrepreneurs, business professionals, and senior executives (Mason and Botelho, 2014). The collective wisdom and resources available within these groups empower angels with greater bargaining power and influence, enabling them to navigate the complex landscape of exits more effectively (Harrison et al., 2010).

Nevertheless, research on exits falls short in defining the specific elements that constitute the strength of angel groups, the methods through which these elements are employed and integrated, and the impact they may have on the ability of angel groups to pursue exits. This gap highlights a compelling need for further research to unravel these complexities and offer an understanding of how angel groups utilize their resources at hand, to an apparent advantage.

2.4.4 Changing Trends related to Exits

In order to gain a deeper understanding of the challenges business angels face in achieving exits, it is essential to consider the broader economic context in which these studies have been conducted. As Mason, Botelho and Harrison (2019) have observed, the nature of business angel investing has undergone significant changes in recent years, with shifts in market conditions and economic trends, that have had a significant impact on exit processes. One of the key challenges business angels face is the increasing difficulty of achieving successful exits. This observation has been noted by several scholars, such as Gray (2011), who have argued that as the business environment becomes more challenging, it becomes increasingly difficult for angels to achieve exits that deliver the returns they had hoped for. Similar findings were reported by the National Angel Capital Association (NACO) of Canada, that states “a main challenge for several angel groups is the length of time to exit. Long

investment time horizons restrict the angels' ability to reinvest in new companies", severely restricting future deal flow. Mason, Botelho and Harrison (2013), provide further evidence of this trend in their survey of angels in Scotland, which found that just 4% of their investments were successfully exited. Collectively, these studies show that achieving exits for business angels has become a scarce event, which is likely due to changing trends in the market over the past decade. To counteract this trend, business angels have been forced to adopt new strategies that would grant them more presence in the market, thus, one of which is forming angel groups. There are in fact notable advantages by pooling investment resources, as in the case of venture capital funds.

2.4.5 Learnings from the Venture Capital Literature

In the venture capital sector, exit strategies vary according to the types of VC firm pursuing them, revealing a dimension that is notably absent in angel group literature. A deeper look into the venture capital market could provide valuable insights to better understand and improve this area. In venture capital literature, VC funds can be classified into three main types: private independent, captive, and public sector VC organizations. Private independent venture capitalists, which dominate the VC landscape in the U.S. and Europe, invest their capital through funds organized as limited partnerships (Sahlman, 1990; EVCA, 2004). Their need for a strong reputation and track record to attract investors may lead to pursuing initial public offering (IPO) exit strategies, even when trade sales are more expected and rational (Gompers, 1995; Schwienbacher, 2002). Captive VC organizations, on the other hand, are funded by internal sources from a parent organization, such as a financial institution or a non-financial company. These organizations, particularly corporate VC organizations, may have strategic objectives that differ from private independent companies, which primarily focus on financial returns (Wright & Robbie, 1996). Lastly, public sector VC organizations are controlled and financed by government institutions, and their influence on exit strategy may be due to statutory constraints (Cumming & MacIntosh, 2002). Such constraints may result in more investments in lower growth firms and less profitable exits. Additionally, labor-sponsored VC funds (LSVCFs) in Canada have been criticized for poor management, lack of specialization, and lower returns compared to competitors (Ayayi, 2004). Therefore, the organizational structure of VC organizations significantly affects their behavior and exit strategies. Understanding these structures and their implications provides

valuable insights for the literature on the influence of angel groups' organizational structure on exit strategy.

The varied landscape in the VC sector underscores how exit strategies significantly differ between types of VC firms, that have different organizational structures. From the above section, it is clear that while some research has been conducted relating to exits in angel and venture capital investments, there remains a conspicuous gap in our understanding of exit strategies i.e., how, and when investments are divested. This lack of focus leaves investors grappling with uncertainties and hampers the growth potential of their ventures. Drawing from the findings of various researchers presented above, we can see there is a need for additional research on exit strategies. The prevailing absence of extensive knowledge concerning exit strategies signals an urgent requirement for more rigorous investigation in the arena of angel and VC investments. Existing studies primarily concentrate on the front end of the investment process, overlooking the critical aspect of exits (Maxwell, Jeffrey & Lévesque, 2011; Gaston, 1989). As the business landscape grows more challenging, the need for comprehensive research in this area is not just desirable, but necessary to mitigate investment risks and optimize returns (Gray, 2011; Mason, Botelho & Harrison, 2013).

2.4.6 Conclusion

The literature review in this chapter has shed light on the evolving landscape of angel investing, with a particular focus on the emergence and growing significance of angel groups. While existing research has provided valuable insights into various aspects of angel investing, several critical gaps have been identified that merit further exploration.

One of the key findings is the limited focus on exit strategies in angel investment literature. Although the decision-making process for investments is well-documented, the strategic considerations of exits remain less explored. This gap suggests an opportunity for deeper investigation into how business angels navigate this crucial phase, as understanding the decision-making processes, criteria, and challenges related to exits could provide valuable insights into the broader investment strategies of angel investors.

Moreover, the review has highlighted the nuances and distinct operational and strategic differences between angel groups and individual angels, underscoring the growing importance of angel groups within the entrepreneurial finance landscape. However, existing research falls short in defining the specific

elements that constitute the strength of angel groups, the methods through which these elements are employed and integrated, and the impact they may have on the ability of angel groups to pursue exits. This gap highlights a compelling need for further research to unravel these complexities and offer an understanding of how angel groups utilize their resources to their apparent advantage.

Furthermore, while existing research on angel groups touches upon the concept of syndication, there remains a notable gap in understanding how these groups operationalize the pooling of resources, particularly financial capital, and its impact on their exit strategies. The central question that emerges is how angel groups leverage these collective resources, amassed through syndication, to navigate and execute exit strategies.

3. Strategy Implementation in Angel Investing

Building upon the previous chapter, Chapter 3 discusses the dynamics of strategy implementation within angel groups. Understanding the intricacies of strategy implementation is essential for analyzing how angel groups approach and execute their exit strategies. This chapter investigates the interplay between deliberate and emergent strategies, recognizing that the dichotomous categorization of strategies as deliberate or emergent does not fully capture the complexities of strategic implementation within the context of angel groups. Additionally, this chapter examines the roles of communication, managerial cognition, social capital and human capital in shaping strategy implementation.

The chapter is structured as follows: an initial overview is provided of the key perspectives in strategic management research, with a focus on deliberate and emergent approaches to strategy. This is followed by an examination of strategy implementation. Through this analysis, gaps in existing research are identified, highlighting the need for a more nuanced understanding of strategy implementation specific to angel groups. This understanding will serve as a foundation for subsequent analysis of how angel groups approach and execute exit strategies, which will be the focus of later chapters.

3.1 The Deliberate-Emergent Continuum

One strand of literature in strategic management bifurcates strategy into either a deliberate or an emergent process. However, as organizations grapple with the complex, dynamic nature of today's business landscape, this dualistic framework appears increasingly reductive. A second strand of literature reveals that strategy formulation and implementation are seldom either purely deliberate or purely emergent but often an intricate blend of the two.

Deliberate strategies, rooted in the works of Hart (1992), Ansoff (1987) and others, depict a systematic, two-stage process of goal formulation and execution. These strategies involve complex cognitive frameworks, employing mental models and analogical reasoning as cognitive tools to articulate and implement strategic intentions (Kiss and Barr, 2015; Marcel et al., 2010; Gary & Wood, 2011; Johnson-Laird, 1983; Gentner, 1983; Holyoak & Thagard, 1996). However, the clarity and formal controls that make deliberate strategies appealing can also be their Achilles' heel, engendering rigidity and reducing adaptability in dynamic environments.

Emergent strategies, on the other hand, offer a more adaptive approach and come into prominence when navigating uncertain terrains (Mintzberg & Waters, 1985; Downs, Durant & Carr, 2003). These strategies are facilitated predominantly by mechanisms like trial-and-error learning and improvisation, which are codified into organizational heuristics and routines (Bingham & Davis, 2012; Bingham, Eisenhardt & Furr, 2007; Zollo & Winter, 2002; Ott & Eisenhardt, 2020). Despite their flexibility, emergent strategies carry the risk of organizational incoherence and may compromise long-term planning for short-term adaptability.

The notion that deliberate and emergent strategies can coexist harmoniously is in fact the agreement within literature (Burgelman, 1983a, 1983b, 1991; Mintzberg & Waters, 1985; Jett & George, 2005). This interplay between polar approaches to strategy can be effectively represented by a strategy continuum, which illustrates the dynamic interplay between these seemingly opposing strategies (Rose & Murphy, 2015; Elbanna & Child, 2007; Hart, 1992; Rajagopalan, Rasheed & Datta, 1993).

Categorizing strategies strictly as deliberate or emergent oversimplifies the complexity of strategic implementation, particularly in specialized investment contexts like angel groups, where exit strategies are critical. In early-stage financing, both deliberate and emergent approaches coexist: individual angels often adopt an approach that can be classified as emergent (Botelho et al., 2021), while traditional venture capital funds may pursue a more rigid, deliberate strategy towards exits (Cummings & Johan, 2008).

Angel groups, however, represent a unique blend of these approaches due to their heterogeneity and collective resources. This intersection of individual motivations and collective capabilities could lead to a hybrid approach to exit strategies. Angel investors contribute not only financial capital but also experience an emotional commitment, which creates a complex set of motivations beyond financial returns.

Literature highlights that angel investors are driven by financial, altruistic and strategic motivations (Bonnet et al., 2023; Landström & Mason, 2016). Altruistically, many angels are motivated by a desire to support the entrepreneurial ecosystem, using their resources and expertise to nurture emerging talent. Strategically, angel investing allows them to stay connected to innovations and trends, particularly in sectors where they have significant knowledge.

Angel groups today command resources that could rival those of venture capital funds (Mason et al., 2019). This enhanced resource base not only elevates their investment capacity but also empowers them to strategically navigate towards exits, possibly incorporating both planned and emergent strategies. Therefore, the strategic approach of angel groups extends beyond the traditional emergent-deliberate dichotomy. It requires balancing personal and altruistic motivations with the strategic rigour necessary for early-stage investing. This balance calls for a nuanced approach that integrates the adaptability of emergent strategies with the clarity and discipline of deliberate planning, tailored to the unique context of angel groups.

In the following section, I will review literature discussing the key facilitators of strategy implementation.

3.2 Facilitators of Strategy Implementation - Communication, Cognition and Human Capital

3.2.1 Communication and Strategy Implementation

Communication is a fundamental aspect of strategy implementation, encompassing both formal and informal interactions that shape the sentiments and behaviours of individuals within an organization (Skivington & Daft, 1991; Sull et al., 2015). Effective communication is crucial for ensuring that the strategy implementation process is organized and coherent, while ineffective communication can pose a significant barrier to success (Martin, 2011; Martin & Eisenhardt, 2010; Heide, Grønhaug, & Johannessen, 2002).

One relevant concept within this topic is horizontal coordination, which involves balancing the autonomy of individual decision-making entities with the potential benefits of cross-unit synergies and reciprocal interdependence (Ghoshal & Bartlett, 1988; Ghoshal & Bartlett, 1990; Martin & Eisenhardt,

2010; Martin, 2011). Similarly, bottom-up communication plays a vital role in strategy implementation. According to Raes et al. (2011), combining the participative leadership of top management with the proactive engagement of middle management fosters a more effective exchange of information regarding strategic objectives and processes, which can enhance the overall quality of strategy implementation.

In the unique context of angel investing, where traditional hierarchical structures are less prevalent, communication takes on a distinct dimension. In angel groups, effective communication is essential for fostering a shared understanding and consensus amongst diverse investors. This is particularly important in clarifying objectives, aligning investment goals and enhancing collective commitment toward strategic implementation, especially concerning exit strategies (Noble, 1999; Rasoolimanesh et al., 2015).

A shared understanding of strategic goals among angel investors is crucial for cohesive decision-making within these groups. Achieving consensus, where investment decisions and exit strategies involve multiple stakeholders with varied perspectives, is key to navigating the complexities of early-stage investing (Ho, Wu & Wu, 2014; O'Reilly et al., 2010). When all members of an angel group, regardless of their role or level of involvement, align their perceptions of strategic goals, their commitment to pursuing and accomplishing the group's strategy is significantly strengthened.

3.2.2 Cognition in Strategy Implementation

Cognitive frameworks are associated as important factors in implementing investment strategies. A cognitive framework, or "knowledge structures," guides decision makers' understanding of strategic implementation (Garbuio, King & Lovallo, 2011). This has been a focal point in the strategic management domain, shedding light on how managers perceive, comprehend and interpret strategic information to direct organizational actions (Zott & Huy, 2007; Singh, 1998; Sull, 2007).

For angel investors, the cognitive process of monitoring investments, deploying resources and adjusting strategies in response to market dynamics is akin to "cognitive control" (Singh, 1998). However, the study of managerial cognition in angel investing transcends analytical decision-making. Focusing solely on performance metrics could lead to an oversight of the deeper cognitive aspects integral to decision-making (Singh, 1998).

However, the complex nature of angel investing can lead to cognitive overload, potentially impacting investment performance. Cognitive aids and support tools, such as collaborative decision-making platforms and structured analytical frameworks, can help manage cognitive complexities (Sull, 2007). Furthermore, the emotional aspects of cognitive processes (Huy, 2007) and the need for adaptability based on feedback (Bates, Amundson, Schroeder & Morris, 1995; Lane & Clewes, 2000) could be relevant for angel groups as they navigate the dynamic investing environment and work to align their collective mindset with strategic goals.

3.2.3 The Role of Human Capital in Strategy Implementation

The implementation of strategies in organizations hinges significantly on the human capital element. The combined knowledge, experience and skills of human managers play a vital role in moderating the relationship between strategy and performance (Hitt et al., 2001). Helfat and Martin (2015) underscore that managerial human capital is a determinant of how effectively managers can gather information, understand problems and manipulate actions to positively influence strategic implementation. This extends to the case of entrepreneurial firms that business angels invest in as well (Triebel et al., 2018; Collewaert, 2012).

Several studies have explored the relationship between managerial experience and strategic implementation success. Govindarajan (1989) demonstrated that a manager's research and development experience positively influenced the implementation of a differentiation strategy, while negatively impacting a cost leadership strategy. Additionally, managerial planning expertise, process management skills (Bryson & Bromiley, 1993) and financial management proficiency (Rasoolimanesh et al., 2015) were found to significantly impact strategic implementation effectiveness. Naranjo-Gil and Hartmann (2007) found that heterogeneity amongst management, particularly in terms of educational diversity, significantly influenced the extent and direction of strategic change. Rasoolimanesh et al. (2014) highlighted the crucial role of leadership in fostering ownership and implementing strategies effectively. The study identified key elements for successful strategy implementation, including stakeholders, financial resources, institutionalization, capacity building and leadership, with a notable emphasis on the impact of stakeholder capacity and the importance of institutionalization.

In the context of angel investing, the human capital of both the angel investors and the management team of the invested firms is likely to influence the

effectiveness of strategy implementation. The knowledge, skills and experience of angel investors can guide strategic decision-making and support the implementation process, while the capabilities and diversity of the management team in the invested firms can directly impact the success of strategic initiatives.

3.3 The Role of Organizational Structure in Strategy Implementation

The implementation of strategies within angel groups could also be associated with how angel groups are organized. As discussed in earlier sections, angel groups exhibit a high degree of heterogeneity in their organizational approaches, as they are not constrained by the need to raise external capital from stakeholders (Croce, Tenca & Ughetto, 2017; Harrison, Botelho & Mason, 2016; Ibrahim, 2008; May, 2002; Payne & Macarty, 2002). Two key aspects of organizational structure that are particularly relevant to angel groups are formalization and the locus of decision-making, whose relevance will be reviewed in this section.

3.3.1 Locus of Decision Making

Within the domain of organizational structure research, centralization is often scrutinized through the prism of authority hierarchy and decision-making participation, which collectively delineate the power distribution within an organization (Carter & Cullen, 1984; Dalton et al., 1980). This study acknowledges the established parameters that define centralization and recognizes their utility in assessing organizational structures across various sectors (Allen & LaFollette, 1977; Dewar, Whetten & Boje, 1980; Glisson & Martin, 1980; Hage & Aiken, 1967, 1969; Jarley, Fiorito & Delaney, 1997; Negandhi & Reimann, 1973). However, the conventional metrics of centralization require recalibration when applied to angel groups, which are not typified by a traditional hierarchy of authority.

In angel groups, decision-making may appear concentrated but does not adhere to a conventional hierarchical authority (Mason et al., 2019). This study uses the term "locus of decision making" to identify where decision-making authority resides within the angel group. Decision-making in angel groups is not a function of hierarchical position but rather the result of negotiated

influence among members, some of whom may have varying levels of authority due to experience, investment or contractual rights. The "locus of decision making" clarifies the degree of centralization in angel groups by focusing on the epicenter of decision activity rather than the distribution of power. This perspective aligns with Andrews et al.'s (2007) view on resource allocation and objective determination but reframes it to reflect the unique collaborative and dynamic nature of angel groups.

Angel groups may adopt either centralized or decentralized decision-making approaches, each carrying significant implications for group performance and effectiveness. Centralized decision-making offers several advantages. It enables swift decisions, provides clear direction and maintains a unified strategic focus (Achleitner et al., 2013; Hales & Tamangani, 1996; Mintzberg, 1979; Ouchi, 1980; 1993; Mainprize et al., 2003). For angel groups, centralization can help maintain a coherent investment and exit strategy, reduce uncertainty and ensure consistency (Andrews et al., 2009; Cameron & Whetten, 1981). This approach aligns with venture capital funds, where centralization maintains portfolio-level coherence (Cumming et al., 2007; Dimov & De Clercq, 2006). However, centralized organizations may be more conservative and less adaptable to change (Cyert & March, 1963; Jansen et al., 2006).

In contrast, decentralized decision-making in angel groups involves more members in strategic decisions (Mason et al., 2019). This approach promotes autonomy, encourages individual contributions and leverages the diverse expertise of angel investors (Supovitz & Tognatta, 2013). Decentralization enhances performance through adaptive routines (Barker, 1993), effective problem-solving and informed decision-making (Goodman et al., 1988; Nooraie, 2014). It fosters diverse ideas, enhances strategy quality and innovativeness (Hall & Saias, 1980; Robbins, 1990) and facilitates a deeper understanding of decisions (Tindale & Winget, 2019). Decentralization enables organizations to seize new opportunities (Nonaka, 1988; 1994) and leverages collective intelligence (Malone & Bernstein, 2022; Woolley et al., 2010). This flexibility is crucial for angel groups to adapt strategies and explore innovative exit routes (Damanpour, 1991; Love, Priem & Lumpkin, 2002).

3.3.2 Formalization

Formalization refers to the degree to which an organization relies on standardized rules, procedures and policies to guide its activities (Gibson et al., 2019). Research suggests that formalization can have both positive and

negative effects on strategy and performance (Adler et al., 2011; Bunderson & Boumgarden, 2010; Crawford & LePine, 2013).

In the context of angel groups, formalization can help build identity and cohesion among members by clarifying roles and providing clear boundaries (Festinger, Schachter & Back, 1950). This is particularly important given the diverse backgrounds and multiple commitments of angel investors (Mason et al., 2019). Formalization can also facilitate coordination, reduce conflict and enhance psychological safety within the group (Bunderson & Boumgarden, 2010). Moreover, in investment firms, greater formalization is employed to manage increased complexity and risks, especially for larger investments (Da Rin & Phalippou, 2014; Davies et al., 2017).

However, excessive formalization may restrict the free flow of knowledge and information among angel group members, hindering their ability to leverage unique perspectives and practices (Courtright, Thurgood, Steward & Pierotti, 2015; Severt & Estrada, 2015). This tension between the need for formalization to create stability and the need for flexibility to harness member diversity is a key consideration for angel groups. Research across various settings suggests that formalization can be enabling when it provides guidance and clarity without reducing flexibility in execution (Adler et al., 2005; Ahrens & Chapman, 2004; Hempel et al., 2012; Wouters & Wilderom, 2008). In the context of strategy, formalization can facilitate alignment between an organization's internal capabilities and external opportunities by providing consistency in processes, roles and expectations (Barney, Wright & Ketchen, 2011; Gulati & Puranam, 2009; Ouksel, 2002; Porter, 1980). It can also enhance risk management, due diligence and accountability, especially for larger investments (Bertoni et al., 2011; Brophy & Guthner, 1988; Cauwenbergh et al., 1996; Culp & Heaton, 2010; Dichev & Yu, 2011; Fu, 1993; Panousi & Papanikolaou, 2012; Teller et al., 2012).

However, excessive formalization may lead to rigidity, hindering adaptation, creativity and innovation (Birkinshaw & Gupta, 2013; Damanpour, 2010; Teece, 2014; Tushman & O'Reilly, 1996). Balancing formalization and flexibility is crucial for effective strategy implementation, as highlighted by the ambidexterity literature (Junni, Sarala, Taras & Tarba, 2013; O'Reilly & Tushman, 2013). The optimal level of formalization may depend on contextual factors such as organizational size, industry characteristics and the competitive environment (Blau, 1970; Child, 1973; Sine, Mitsuhashi & Kirsch, 2006).

3.3 The Role of Social Capital in Strategy Implementation

Social capital, derived from both formal and informal relationships, plays a crucial role in obtaining resources, information, power and goodwill, which in turn enhance a manager's cognitive ability to effectively manage resources (Helfat & Martin, 2015; Blyler & Coff, 2003). The human elements, such as managers' personal traits and capabilities, are vital in driving strategic initiatives (Minarro Viseras, Baines & Sweeney, 2005). Social capital, manifested through shared understanding, dedication and managerial skills, serves as a cornerstone in strategy implementation.

Experiential learning cycles, encompassing concrete experience, reflective observation, abstract conceptualization and active experimentation, enable managers to transform experiences into actionable knowledge, cultivating the necessary managerial capabilities and social capital for strategic adaptability and implementation (Kolb et al., 2014). Middle managers' utilization of informational and reputational forms of social capital can enhance business performance and adaptability, highlighting the dynamic interplay of social capital in navigating and aligning adaptive strategies (Ahearne et al., 2014).

Further enriching this perspective, Cohen and Prusak (2001) illustrate how the infrastructure of social capital within organizations enables the flow of knowledge and supports organizational learning, which is fundamental to mobilizing strategic initiatives. This affirms the critical role of social capital in underpinning effective communication and operational alignment within dynamic business environments. Underpinning these dynamics of social capital, trust emerges as a fundamental element that facilitates the development and effectiveness of relational networks, fostering cooperation, reducing transaction costs and enhancing information sharing across organizational boundaries (Rousseau et al., 1998).

Leadership style, feedback mechanisms and interpersonal relations influence the degree of support perceived by middle managers, thereby affecting the success of strategy execution (Qi, 2005). Successful strategy implementation correlates with strong, active leadership, underscoring the importance of substantial social capital in lending credibility and legitimacy to the change process (Brenes et al., 2008). The absence of strong connections with stakeholders can disrupt the strategy implementation process, leading to the predominance of socioemotional biases (Huy, 2011). These studies collectively demonstrate that social capital, in its various forms, is integral to

effective strategy implementation, highlighting the importance of the nuanced interplay of human and relational aspects within the organization.

In the context of business angels, an individual's track record, encompassing regional and industry-specific experience, significantly influences their mode of operation in the informal venture capital market (Sørheim, 2003). This finding resonates with research on middle managers, project managers and top management, emphasizing the importance of personal attributes and experiences in shaping strategy implementation (Qi, 2005; Minarro Viseras et al., 2005; Ahearne et al., 2014).

Sørheim (2003) introduces three dimensions of social capital: structural, relational and cognitive. The structural dimension refers to the access and sharing of relevant information within regional or industry networks (Ahearne et al., 2014). The concept of absorptive capacity, emphasizing an organization's ability to recognize, assimilate and apply new information, highlights the vital role of structural networks within and across organizational boundaries in strategic execution (Cohen & Levinthal, 1990). The relational dimension relates to perceived investor trustworthiness, while the cognitive dimension centers on creating common ground between investors, entrepreneurs and potential co-investors, emphasizing the importance of shared understanding (Minarro Viseras et al., 2005).

These dimensions not only bridge the gap between the role of social capital in strategy implementation and venture capital markets, but also expand upon the notion of social capital itself. Building on the relational and cognitive dimensions, Dyer and Singh (1998) underscore the importance of unique interfirm relationships as a source of competitive advantage. They argue that trust-based collaborations facilitate the creation and sharing of valuable resources, including tacit knowledge and strategic information, reinforcing the relational dimension's role in achieving strategic alignment and operational effectiveness. Expanding on the significance of the structural and relational dimensions of social capital, networks play a pivotal role in the investment landscape by adding an additional layer of implicit vetting and endorsement for potential investments. Hochberg et al. (2007) and Smedlund (2008) illustrate how these networks facilitate a collaborative and open exchange of resources, significantly contributing to strategic initiatives within early-stage investing. Furthermore, networks serve as a critical mechanism for mitigating the challenges of information asymmetry, a prevalent issue in early-stage investing. Networks also serve as a critical mechanism for mitigating information asymmetry by providing access to valuable information and

contributing to the collective vetting process (Bajo et al., 2020; Lahti & Keinonen, 2016; Jääskeläinen & Maula, 2014).

Sørheim's (2003) insights suggest the potential value in engaging investors with relevant experience but limited track records, aligning with the significance of leader-member relationships in strategic processes (Qi, 2005). In the context of angel group investments, leveraging diverse dimensions of social capital - structural, relational and cognitive - can significantly enhance decision-making processes and adaptive strategies, emphasizing the importance of interpersonal dynamics and shared understanding in driving successful investment outcomes.

3.4 Conclusion

The review of strategic management literature in Chapter 3 has revealed several key insights that have significant implications for understanding strategy implementation within angel groups and for the direction of this thesis.

Firstly, the chapter challenges the conventional dichotomy between deliberate and emergent strategies, illustrating that this oversimplification fails to capture the nuanced realities of strategy implementation. Angel groups, which function at the intersection of individual and collective interests, require a more integrated approach that blends deliberate planning with the adaptability of emergent strategies. This insight underscores the complexity of strategic decision-making in environments characterized by uncertainty and diversity.

Secondly, the chapter explores the critical roles of communication, managerial cognition, social capital and human capital in shaping the effectiveness of strategy implementation. While these factors are well-established in the broader strategic management literature, their specific relevance to early-stage investing, particularly in angel groups, has been underexplored. The chapter identifies the importance of these elements in navigating the challenges of early-stage investing, such as achieving consensus, aligning investment goals and managing the diverse motivations of individual investors.

Thirdly, the chapter delves into how the organizational structure of angel groups influences strategy implementation. It examines the impact of decision-making processes - centralized versus decentralized - and the degree of formalization on strategic outcomes. These aspects are crucial for understanding how angel groups balance the need for flexibility with the

requirement for structured, coherent strategies, particularly in the context of exit planning.

Lastly, the chapter extends the discussion to include the role of social capital in facilitating strategy implementation. It highlights how the networks, relationships and shared understandings within angel groups contribute to effective decision-making and strategy execution. This dimension is particularly important in early-stage investing, where trust, collaboration and the exchange of information are critical to success.

Together, these insights reveal the complexities of strategy implementation in angel groups and highlight the need for a nuanced, multidimensional approach that goes beyond traditional strategic frameworks. They also set the stage for further exploration of how these factors influence the pursuit of exit strategies, offering a richer understanding of strategic management in this unique investment context.

4. Theoretical Underpinning, Conceptual Framework and Research Hypotheses

4.1 Theoretical Underpinning: The Resource-Based View and Dynamic Capabilities View

4.1.1 An Introduction to the Resource-Based View and Dynamic Capabilities View

The Resource-Based View (RBV) stands as a dominant paradigm in strategic management literature, offering an in-depth understanding of how firms operate, concerned with an internal analysis of the firm (Makhija, 2003). Based on the work of Penrose (1959), the Resource-Based View describes firms as bundles of resources. Penrose introduces the notion that an appropriate deployment of resources may lead to competitive advantage and growth. The Resource-Based View argues that firms gain competitive advantage through distinctive internal resources and capabilities (Wernerfelt, 1984; Barney 1991; Grant, 1991). Resources are assets which are controlled or semi permanently tied to the firm (Wernerfelt, 1984). They are all attributes, assets, processes or knowledge which may be used to implement strategies that increase effectiveness and efficiency (Daft, 1983). This perspective of the firm takes a contrary perspective of the positioning school of strategy, such as Industrial Economics, in which, the strategy of a firm is concerned with coping with the competition. The assumptions about resources in RBV deviate from those of the assumptions of Industrial Economics. Firstly, industrial economics often assumes that resources across firms in an industry are relatively homogeneous or can be acquired on the open market by any firm. This implies that all firms have equal potential access to the resources necessary to compete, while the RBV assumes that firms possess resources that are heterogeneous. Secondly,

Industrial Economics assumes that resources are mobile and can be transferred between firms without loss of productivity or value. It suggests that firms can acquire necessary resources from external markets as needed. On the contrary, RBV assumes that some resources cannot be easily moved between firms. These resources are often firm-specific and may include tacit knowledge or company culture, which cannot be easily bought or sold. Thirdly, industrial economics views resources as exogenous to the firm, i.e., firms are assumed to take the resources as given and do not necessarily develop them internally. RBV, on the other hand, sees resources as often developed internally within the firm over time, building on its unique history and capabilities.

In this research, the empirical phenomenon in question is angel groups, which are inherently diverse in their nature, comprising members with different expertise, experience levels and networks (Mason et al., 2019). RBV's emphasis on resource heterogeneity aligns with the nature of angel groups, where such unique combinations of resources are critical in determining their influence and success in guiding startups towards growth and successful exits. Furthermore, RBV's premise that resources are imperfectly mobile and often firm-specific is consistent with the closed nature of angel groups' internal competencies and social capital, which cannot be easily acquired by other angel groups. This imperfect mobility of resources is a key determinant of an angel group's survival in the market.

However, taking into consideration the scarce and heterogeneous assumption of resources raises an important question: how would angel groups make the best use of the resources at hand? In other words, angel groups operate in a fast-changing, volatile environment, and RBV's static nature of resources (Teece, 2007; Sarasvathy & Dew, 2005) would be a flawed perspective in such an environment. To answer this question, as well as overcome this shortcoming regarding the static nature of resources, the dynamic capabilities view (DCV) (Teece et al., 1994) is added to that of RBV. The Dynamic Capabilities View challenges the view of firms as static entities and instead provides a dynamized view of the firm and accounts for changes in the firm's environment. Specifically, the firm's processes that use resources – specifically the processes to integrate, reconfigure, gain and release resources – to match or even create market change. Dynamic capabilities thus are the organizational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve and die (Eisenhardt & Martin 2000, p. 1107). Addressing the definition, Dynamic capabilities are generally described as an ability (Zahra, Sapienza & Davidson, 2006; Augier & Teece, 2009; Teece, 2014b; Birkinshaw, Zimmermann & Raisch, 2016; Bogers et al., 2019), a

competence (Danneels, 2008), an organizational routine (Zollo & Winter, 2002; Kleinbaum & Stuart, 2014; Schilke, 2014a; Schilke, 2014b), a capacity (Helfat & Peteraf, 2009; Salvato & Vassolo, 2017) and a process (Moliterno & Wiersema, 2007; Ambrosini & Bowman, 2009). Dynamic capabilities serve as a bridge between spontaneous, ad-hoc problem-solving and well-established routine processes, providing a framework within which managers can be both adaptive and creative (Di Stefano, Peteraf & Verona, 2014; Kleinbaum & Stuart, 2014; Teece & Leih, 2016). In aligning with the Resource-Based View (RBV), dynamic capabilities are understood as higher-order competencies that enable firms to exploit existing resources and capabilities effectively (Teece, Pisano & Shuen, 1997). The DCV extends this by highlighting the importance of managerial decisions in actively affecting performance and enhancing heterogeneity among firms (Teece, Pisano & Shuen, 1997; Adner & Helfat, 2003; Chatterji & Patro, 2014; Heaton & Teece, 2018). In particular, the perspective of a manager as an 'asset orchestrator' or 'architect' is particularly relevant to the case of angel groups, as it refers to the compilation and reconfiguration of assets and capabilities (Chatterji & Patro, 2014; Teece, Peteraf & Leih, 2016). This architectural perspective shifts the focus from merely selecting resources to building and nurturing capabilities, thus emphasizing the critical impact that angel investors, as managers, have on the performance and strategic direction of the ventures they support.

In sum, the RBV provides a foundational understanding of the intrinsic value of resources within angel groups, recognizing the diversity and firm-specific nature of these assets. However, it's DCV that helps understand how these resources are utilized, transformed and optimized from static elements into dynamic tools of strategic execution. The angel group, through the DCV lens, becomes an adaptive, learning organization where seasoned investors orchestrate their combined resources to respond to market dynamics. This theoretical synergy of RBV and DCV offers a robust framework for investigating how angel groups, as collective entities of resource-rich individuals, build and achieve their exit strategies in a landscape characterized by rapid evolution and uncertainty (Berger & Udell, 2006).

As the RBV has evolved, scholars have strived to form testable hypotheses regarding the strategic attributes of resources. A cornerstone of the RBV is its recognition of the pivotal role managerial decision-making plays in resource acquisition, enhancement and deployment. The theory depicts managers as strategists, tasked with optimizing a set of resources.

In conclusion, the RBV and DCV emerge as adaptable lenses highlighting the crucial importance of resources and strategic choices. However, it's essential

to understand the inherent nature of these lenses. Instead of being tightly integrated theories, the RBV and DCV should be viewed as an overarching perspective. Within this, diverse concepts and principles exist, which might not always be seamlessly integrated. Their focus on internal competencies and strategic resource management renders them invaluable for various phenomena, including the strategic behaviours of angel groups and their influence on exit strategies.

4.1.2 Partial Applicability of the VRIN Criteria

While the concept of Sustainable Competitive Advantage (SCA) is central to the Resource-Based View (RBV), particularly through the lens of VRIN criteria (Barney, 1991) - Valuable, Rare, Inimitable and Non-substitutable - it is important to contextualize its applicability when examining angel groups. Unlike traditional firms, angel groups are not primarily competing against each other for market share or dominance; rather, their focus is on maximizing the potential and success of the ventures they invest in. Thus, while SCA as a concept does not directly apply to the case of business angels (or other early-stage investors), the VRIN framework still offers tremendous value in understanding the unique resources angel groups bring to the startups they support.

Angel groups extend beyond financial investment to offer valuable resources such as mentorship and strategic expertise, which are indispensable for startups navigating the complex entrepreneurial landscape (Mason et al., 2019). This mentorship includes personalized guidance, critical industry introductions and best practices tailored for startup growth and scalability.

Rare resources in angel investing are those not easily accessible to all. Members of angel groups bring collective experiences that yield unparalleled industry insights and distinctive investment opportunities (White & Dumay, 2017; Bonini & Capizzi, 2018). Through numerous investment cycles, they develop and refine proprietary investment strategies, which come to represent their signature intellectual capital (Söderblom et al., 2016). Their specializations in niche markets afford them unique perspectives on emergent trends (Smith et al., 2010), and the extensive networks forged from enduring collaborations further underscore the scarcity of their resources (Nahapiet & Ghoshal, 1998).

Inimitability extends beyond tangible assets. The industry knowledge and networks possessed by angel groups are challenging to replicate (Wright,

Westhead & Sohl, 1998). The true essence of the RBV is captured in resources that are rooted in the group's history and dynamics. Factors such as trust, shared experiences and established relationships contribute to creating an environment that is inherently difficult to duplicate (Kaiser & Berger, 2020). The element of causal ambiguity introduces additional complexity, concealing the precise drivers behind an angel group's success (King & Zeithaml, 2001). Their tacit knowledge, whether it pertains to specific industry insights or an innate ability to evaluate startups, further distinguishes their uniqueness.

Non-substitutable resources underscore a firm's individuality, but angel groups derive their competitive edge primarily from their wealth of inimitable assets. These resources, deeply entrenched in shared experiences, strengthen their standing in the investment landscape (Barney, 1991; Grant, 1996).

4.1.3 Criticisms of the RBV

While the RBV has provided instrumental insights and broadened our understanding of how firms strategically manage resources to attain a competitive advantage, it has its shortcomings.

First, a significant critique of the RBV is its perceived tautological nature (Kraaijenbrink et al., 2010). Critics suggest that the VRIN criteria - Value, Rarity, Inimitability and Non-substitutability - are endogenous to the concept of competitive advantage. If a resource is deemed valuable, it implies that it contributes to a competitive advantage. Conversely, if it confers a competitive advantage it is considered valuable. This circular logic prompts concerns about the falsifiability of the theory, an essential attribute of any scientific theory.

Second, the RBV faces criticism for its static orientation (Teece, 2007; Sarasvathy & Dew, 2005). While it effectively encapsulates the strategic value of resources, some argue that it inadequately addresses the dynamics of rapidly changing business landscapes. Such a static viewpoint might constrain the RBV's relevance in sectors marked by swift technological innovations, shifting consumer preferences and intense competition, like the startup ecosystem in which angel groups participate. The inception of the Dynamic Capabilities View (DCV) (Teece, 2007) serves as a response to this critique. The DCV contends that, in swiftly evolving markets, a firm's ability to sense, grasp and reconfigure its resource base is pivotal. These dynamic capabilities empower firms to adjust, integrate and restructure both internal and external competences to match rapidly shifting scenarios. In the realm of angel groups, adaptability is vital. This adaptability hints at the ever-evolving nature of

resources, wherein the importance and application of one resource can be altered by shifts in another. Angel groups, intrinsically, function in volatile startup terrains, investing in fledgling firms with unpredictable outcomes. Their triumphs rely not solely on the fixed resources they possess but also on their aptitude to dynamically modify their strategies in response to the altering paths of their invested startups, market trends and technological advancements. Hence, angel groups' resources are perceived as interconnected entities that adapt based on other internal capabilities (Zahra & George, 2002).

Third, the RBV predominantly adopts an inward-focused lens, centering on a firm's internal assets (Barney, 1991). Such an insular view might undermine the significance of external environmental factors. Although the RBV doesn't explicitly deny the impact of external elements, it arguably downplays their influence (Mahoney & Pandian, 1992). Given the interconnected and dynamic nature of the startup ecosystem where angel groups are active, both internal and external elements are vital. The adoption of the DCV view in this research counters this, accepting the operation of the angel group within a continually changing environment.

Fourth, detractors posit that the RBV doesn't attribute adequate emphasis to the processes through which resources are discerned, cultivated and employed (Fahy, 2000; Doh, 2005). Such a critique is especially pertinent in the context of angel groups, wherein the recognition and utilization of resources frequently encompass intricate decision-making mechanisms involving multiple stakeholders.

In this research, I recognize and discuss the critiques of the RBV, especially its portrayal of resources as static. Given the ever-evolving landscape in which angel groups operate (Berger & Udell, 2006), the perspective of viewing resources as isolated, unchanging entities seems limited. In reality, within these groups, resources function interdependently and dynamically, both affecting and being affected by other elements of their ecosystem. The Dynamic Capabilities View (DCV) better encapsulates this fluidity, depicting resources as adaptable, evolving alongside to function within the mutable competitive landscape (Eisenhardt & Martin, 2000; Teece et al., 1997). Consequently, the concept of resource configurations becomes pivotal (Lockett et al. 2009). The multifaceted resources of angel groups necessitate an understanding that can illuminate paths to competitive advantages, ultimately influencing the success trajectories of the startups they back.

Thus, in this research, both the Resource-Based View (RBV) and the Dynamic Capabilities View (DCV) are synergistically employed to comprehend the

unique roles of angel groups. The RBV lays the foundation, spotlighting the inherent value of resources angel groups contribute. While the RBV offers a fundamental grasp of the strategic significance of these assets, the DCV complements it, addressing the dynamic, evolutionary and interconnected nature of resources. It underscores the agility required by angel groups to adapt, revitalize and rearrange their resources in alignment with emerging opportunities. As previously noted, angel groups can amass both financial and non-financial assets. This leads to a broader engagement in investment opportunities, resulting in a more varied investment portfolio (Mason et al., 2019; Antretter et al., 2020). Such an approach empowers angel groups to dynamically modify their resources, ensuring that investments are both financially sound and strategically harmonized with the group's pooled expertise and the shifting startup landscape (Berger & Udell, 2006).

In summary, angel groups, armed with an array of resources, play a pivotal role for startups. Through the integrated lenses of the RBV and DCV, this research seeks to appreciate the scope and scale of these resources, gaining insights into their strategic deployment. This approach highlights the profound influence and adaptability of angel groups in the entrepreneurial domain.

4.2 Research Questions

The Resource-Based View (RBV) and Dynamic Capabilities (DC) framework provide a valuable lens through which to examine how formalization and locus of decision-making within angel groups influence exit strategies. Despite the potential of these theoretical perspectives, Mason and Landström (2016) observed an underrepresentation of the RBV in angel investment literature, highlighting a research opportunity to enrich our understanding of angel investments.

In this context, formalization and decision-making processes can be viewed as conditions to exploit resources that are expected to shape how an angel group's internal resources, including financial, social and human capital, are organized and directed towards developing and executing exit strategies. A higher degree of formalization may provide a mechanistic coordination, akin to that of venture capital funds, enhancing the predictability and systematic execution of exit strategies (Cumming, 2008). This approach entails a well-defined roadmap for conceptualizing, evaluating and executing exit strategies, reducing ambiguities and potential conflicts (Mason & Harrison, 2002;

Botelho et al., 2021) and facilitating ongoing monitoring against benchmarks or criteria (Sudek, 2006).

Moreover, the volatile environment in which angel groups operate necessitates agility. The DCV postulates that organizations should not only harness their current resources but also be adept at reconfiguring them in response to evolving external landscapes (Teece, Pisano & Shuen, 1997). Empirical studies support this, indicating that angel groups may tailor their investment strategies to the nature and demands of their investments and market environments (Sohl, 2006; Månsson & Landström, 2006).

The demands of investment size and rate of activity also influence how investment firms are organized, emphasizing the role of financial capital as a resource (Khieu et al., 2015; Klein et al., 2014; Berger & Udell, 2006). Larger investments may necessitate a more formalized approach for in-depth due diligence and risk assessment (Cumming et al., 2019), while smaller investments, facilitating broader portfolio diversification, might benefit from a more agile, less formalized approach (Bruton et al., 2010).

Furthermore, the rate of investment activity may critically shape the structure of angel groups. High investment activity demands a systematic approach for managing multiple investments and aligning them with the group's risk profile and investment thesis (Hsu, 2004), while a lower investment rate may allow for more personalized attention to each investment, favouring a more decentralized approach.

Therefore, understanding how formalization and decision-making locus within angel groups influence exit strategies is crucial. By calibrating their coordination based on investment size and activity rate, angel groups can better navigate the complexities of the investment landscape. The strategic combination of resources, with a focus on portfolio management, capital allocation and investment activity rate, enhances their value. This suggests that organizing their coordination, conceptualized through formalization and locus of decision making, could yield compounded strategic benefits, especially in the context of exit strategies.

> RQ1: How do financial capital, locus of decision making and formalization influence exit strategies within angel groups?

Delving deeper into this dynamic, the RBV sheds light on the micro-level processes that operationalize strategy within angel groups. It underscores that merely possessing resources isn't sufficient. Instead, the emphasis is on the

effective coordination and alignment of these resources, both tangible and intangible. Angel group members possess resources ranging from financial capital to industry expertise and networks, that can be instrumental in implementing exit strategies. The synergistic combination of these diverse resources, both tangible and intangible, can significantly impact how exit strategies are actualized. When resources are combined, they can produce outcomes greater than the sum of their individual effects (Teece, 1984), ultimately influencing the implementation of exit strategies (Sirmon et al., 2007). Furthermore, it is not just about possessing resources; it is about leveraging them optimally (Amit & Schoemaker, 1993). For angel groups, this translates to effectively mobilizing the collective expertise, networks and financial resources of its members to bring exit strategies to fruition. Additionally, in the rapidly shifting world of startups and investments, the strategies employed by angel groups should not remain static. The ever-changing dynamics of the market, the evolving nature of startups in their portfolio and the continuous influx of new information may call for angel groups to remain agile in their strategic approach. This is particularly pertinent when formulating and implementing exit strategies, given their significant implications for returns on investment. This is possible through the development of high-order capabilities, which Teece et al. (2007) describe as dynamic capabilities. Particularly, through reconfiguration of resources, as startups mature or market dynamics shift, the value proposition and potential exit avenues for a startup might evolve. Angel groups, leveraging their dynamic capabilities, could reconfigure their resources – be it reallocating financial investments, re-engaging networks or revisiting valuation models – to align with the emerging exit landscape (Teece, 2012). Furthermore, through continuous engagement with startups and the broader market, angel groups may refine and adapt their exit strategies based on real-time learnings and insights. Finally, in some angel groups, exit strategies could be a collective decision. This viewpoint emphasizes its collaborative nature, with multiple actors contributing to the strategic discourse (Johnson et al., 2003). Angel groups, leveraging their dynamic capabilities, may foster an environment where diverse investor perspectives are integrated, leading to a more comprehensive and adaptable exit strategy.

> RQ2: How do angel groups leverage their collective resources to implement exit strategies?

4.3 Conceptual Framework for the Macro-Level Analysis

In the literature review, I discuss the transformation of angel investors from a fragmented and predominantly individual-based market to one increasingly characterized by highly visible angel groups and syndicates that consolidate and channel financing (Mason et al., 2016). A central resource around which this transformation has been led is financial capital (Ibrahim, 2008; Mason et al., 2019). Financial capital, recognized as an essential resource in angel investing (Mason & Harrison, 2002), can empower investment capabilities and influence the decision-making processes within these groups (Paul et al., 2007). In the broader finance literature, the strategic structuring of financial capital is acknowledged as critical for managing associated risks, costs of capital and enhancing overall value (Baker, 2011). Optimizing a firm's capital structure and financial decisions are vital for sustaining a competitive edge in the dynamic early-stage capital markets, where neglecting these aspects can significantly hinder growth and increase failure risks (Myint et al., 2017; Vanacker & Manigart, 2010). Moreover, financial capital plays a pivotal role in driving decisions related to portfolio management, budgeting and resource allocation, facilitating agile, evidence-based project selection and reallocation (Mittal, 2012; Kester et al., 2011). Greater financial resources can provide angel groups with a strategic advantage in the investment landscape, enabling access to a wider deal flow and the ability to engage in later-stage investments that require substantial funding (Bonini et al., 2018). This enhanced access to a broader range of investment choices also empowers them to pursue exit strategies independently, without the need to rely on external financiers such as venture capitalists (Mason & Harrison, 2016). Financial self-sufficiency not only facilitates more direct control over exit decisions but also allows them to retain a larger ownership stake in their portfolio companies. Thus, the role of financial capital is crucial in shaping the strategic pathways of angel groups, particularly in pursuing exits.

However, the mere possession of financial capital is insufficient; organizational structure serves as a condition that enables angel groups to effectively exploit this resource. The implementation of strategies within angel groups is intrinsically linked to their organizational approaches. As discussed in the chapter on organizational structure, angel groups exhibit a high degree of heterogeneity in their organizational designs, as they are not constrained by the need to raise external capital from stakeholders (Croce, Tenca & Ughetto, 2017; Harrison, Botelho & Mason, 2016; Ibrahim, 2008; May, 2002; Payne &

Macarty, 2002). Two key aspects of organizational structure that are particularly relevant to angel groups are formalization and the locus of decision-making.

Building on the premise that financial capital plays a pivotal role in angel groups' strategies, I use the size and frequency/rate of investments made by the angel group as measurable indicators to evaluate the influence and utilization of financial capital within these groups. Investment size not only reflects the magnitude of financial commitment but also encapsulates the investor's valuation of a venture's potential and anticipated returns, serving as a tangible measure of confidence in the venture's future (Bardolet et al., 2017). Large investments imply a strong belief in the venture's potential and an anticipation of substantial returns. The decision to invest a significant amount often reflects an investor's confidence in their ability to assess the venture's prospects accurately.

Conversely, the rate of investment offers insights into an investor's risk management (Jääskeläinen et al., 2006). Angel investors engaging in frequent investments indicates a preference for portfolio diversification to mitigate unsystematic or idiosyncratic risk – a cornerstone of financial theory for balancing high-risk, high-reward ventures against potential losses (Xie, 2020) - although the optimal portfolio size varies based on the investor's level of risk aversion. The concept of portfolio diversification posits that spreading investments across diverse ventures can reduce the impact of the failure of any single venture on the overall portfolio. This approach is reinforced by findings from Devaney (2005) and Li and Zhang (2023), who noted a decrease in risk with an increase in portfolio size. By diversifying investments across multiple ventures, angel investors can effectively balance high-risk, high-reward opportunities with the goal of minimizing idiosyncratic risk (Jensen, 2002).

These indicators in investment size and rate reveal insights into an angel group's strategic intent and risk tolerance (Wright et al., 2007). Such insights can influence return expectations and shape desired exit timelines (Cumming, 2008). Furthermore, larger investments, which represent significant financial commitments, are usually directed towards startups perceived to have high potential or those in more advanced growth stages (Manigart et al., 2002; Dudley, 2012). Two primary reasons might necessitate greater formalization of such substantial capital allocations. First, the increased risk associated with larger investments requires methodical oversight and thorough due diligence (Fu, 1993). Second, significant financial involvement demands enhanced accountability and transparency to stakeholders, necessitating formalized processes (Teller et al., 2012). However, while large investments in disruptive

startups might necessitate adaptive strategies to navigate volatile markets, it is crucial to differentiate between strategic flexibility and operational structure. Angel groups can uphold structured processes while remaining strategically agile.

In contrast, angel groups that make frequent but smaller investments likely operate with a portfolio approach, diversifying their capital and risk across numerous startups (Binsbergen, 2011). Such an investment approach could favour flexibility and decentralized decision-making, allowing for rapid responses to emerging opportunities. Furthermore, the patterns of investment size and frequency act as indirect indicators of market sentiment and investor confidence (Nahata, 2008; Meier, 2016). A trend towards larger, more assertive investments may reflect a bullish sentiment within the startup ecosystem (Meier, 2017), often aligned with aggressive exit strategies targeting higher returns. On the other hand, a cautious or conservative investment approach may indicate concerns about market stability or the viability of startups, suggesting a preference for exit strategies that prioritize risk mitigation.

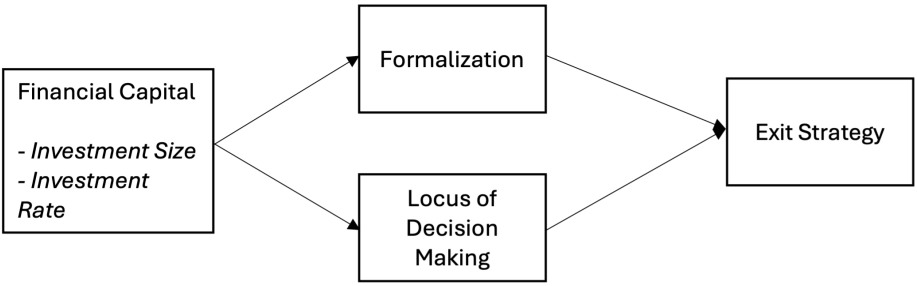


Figure 1: Proposed Associations

Given these considerations, it is anticipated that financial capital may influence formalization and the locus of decision-making in angel groups, which in turn may influence the implementation of exit strategies.

4.4 Research Hypotheses and Categorization

4.4.1 Research Hypotheses

The following section presents the research hypotheses that drive the quantitative analysis, constituting the first empirical stage of this research. Following the previously advanced framework, I initially focus on the role of financial capital (measured as investment size and rate) and its potential relationship with formalization and locus of decision making. This is followed by an examination of their potential relationship with exit strategy.

Investment size, defined by the magnitude of financial commitments made by angel groups to their portfolio startups (Mason & Harrison, 2002), is expected to directly influence the structure of these groups. Larger investments necessitate rigorous risk management (Milovidova, 2019) and often lead to more formality (Sölvell, 2008). These investments may enable angel groups to implement strategies for risk diversification across various sectors and stages, supporting sophisticated portfolio management practices, including risk assessment models and sector-specific evaluation criteria. This facilitates informed decision-making and optimizes the risk-return profile of the portfolio (Markowitz, 1952).

The move towards formalization is supported by the additional resources that large investments are associated with, allowing angel groups to deploy consistent procedures, such as valuation metrics and monitoring processes (Carpentier & Suret, 2015). The significant financial commitments involved in large investments require thorough due diligence (Culp & Heaton, 2010) and often lead to the incorporation of multidisciplinary expertise, marking a shift towards a more structured environment (Brophy & Guthner, 1988; Bertoni et al., 2011). Additionally, the enhanced reputation that accompanies sizable investments (Dimov et al., 2007; Nahata, 2008) is expected to form a positive feedback cycle. This cycle involves strengthening reputation, which in turn may lead to increased formality to maintain market credibility (Chemmanur & Fulghieri, 1994; Chang & Wei, 2011). Credibility, in return, may attract more investments and members to the group. Such a dynamic can be further nuanced by external pressures. For instance, as angel groups amplify their investments, they often compete alongside venture capital firms (Mason et al., 2019), entities that traditionally embrace a higher formalization level (Garg, 2020; Ewens et al., 2022). This positioning in the market can expedite the move towards formalization, making it a response to, and a trigger for, larger

investments. Substantial investments facilitate more expansive portfolio diversification, which often necessitates the formation of specialized sub-committees or the assignment of defined roles to members (Cornell, 2021; Byrne & Lee, 2003). This diversity may drive the group towards greater formalization to manage the complexities that arise from cross-sector investments (Cumming, 2008; Mason et al., 2019).

With increased investment sizes, angel groups may face heightened legal and regulatory scrutiny. The complexity of adhering to financial regulations, coupled with the need to protect investments legally, could propel them towards formalization (Cumming & Knill, 2010). Implementing formal legal and compliance processes becomes indispensable for navigating the regulatory landscape, mitigating legal risks and safeguarding investor interests.

The size of investments can also attract attention from a broader set of stakeholders, including other institutional investors and strategic partners (Fichtner, 2020). Meeting the expectations of these stakeholders often requires a higher degree of professionalism and formalized operations, which signal competency and reliability to external parties, reinforcing the angel group's legitimacy and reputation in the ecosystem (Hellmann, 2002; Buttice et al., 2021).

Given these considerations, investment size could be a crucial element in determining the angel groups' approach to investments. It intertwines with different aspects of an organization such as culture, resources, reputation, diversification and planning for the future. All these aspects could push the angel group towards greater formalization. This line of thought leads us to the first hypothesis:

> H1a: The size of investment made by angel groups is positively associated with the degree of formalization.

Moving the discussion to locus of decision making, the centralization of decision-making in angel groups, especially when dealing with larger investments, can be justified by the heightened risk profile associated with these investments. Larger investments inherently carry a greater degree of financial risk, as the potential for significant loss is amplified compared to smaller investments (Panousi & Papanikolaou, 2012; Dichev & Yu, 2011). This heightened risk could necessitate a more focused approach in managing investment decisions, ensuring thorough analysis and management of every aspect of the investment. In angel groups, where diverse members contribute varying levels of expertise and resources, centralizing decision-making allows

for a more controlled approach to managing this risk. Members with specialized skills and experience in financial analysis and risk assessment are likely to form a core team, potentially enhancing the group's ability to effectively leverage their expertise (Croce et al., 2017; Paul, Whittam & Wyper, 2007). A centralized approach could ensure that decisions are informed by comprehensive due diligence, advanced financial modeling and thorough risk analysis (Rin, 2014). Such a centralized structure can streamline decision-making processes and consolidate risk management practices. This is crucial for larger investments, where the consequences of inadequate risk management can be particularly detrimental. By centralizing decisions, angel groups can develop a cohesive risk management strategy, aligning their investment decisions with a risk-return profile that is carefully calibrated and consistently monitored.

Moreover, larger investments elevate the competitive landscape surrounding angel groups, positioning them closer to venture capital firms, which are known for their centralized models (Sahlman, 1990; Li, 2011). To adapt to this competitive environment, angel groups may align their decision-making processes with those of venture capital firms to expedite the time required to complete investments.

Further complicating the decision-making landscape is the role of external partnerships and social networks. As investment size increases, so does the likelihood of co-investing with other entities (Venugopal and Yerramilli, 2022) such as other angel groups, venture capital firms or government funds (Sahlman, 1990; Bonini et al., 2018). These collaborations introduce another layer of complexity, requiring seamless inter-organizational communication and negotiations (Chatterjee & Gray, 1995). Therefore, centralized decision-making may be paramount, firstly to ensure a unified voice that is vital for maintaining consistency and credibility with external stakeholders. Secondly, it can streamline the decision process, enabling swift and coherent responses in time-sensitive negotiations, thereby potentially optimizing collaboration outcomes. In addition to presenting a unified front in external collaborations, the centralized approach underpins the professionalization and specialization of decision-making within angel groups. By delegating authority to members with specific expertise, angel groups could enhance the quality and impact of their investment decisions, leveraging deep, sector-specific knowledge to add value to their portfolio companies. This leads to the hypothesis:

> H1b: The size of investments made by angel groups is positively associated with the degree of locus of decision making.

As previously advanced, financial capital can also be measured as frequency/rate of investment. It is then hypothesized that the rate of investment within angel groups could significantly influence their level of formalization. At its core, the rate of investment serves as a temporal constraint; a high rate may condense decision-making into shorter timeframes, which may necessitate streamlined procedures and standardized guidelines for efficiency and integrity (Vazirani & Bhattacharjee, 2024; Cumming et al., 2022). As the rate of investment accelerates, the demand for operational efficiency becomes critical. Formalized processes may allow angel groups to evaluate and execute investments more quickly, avoiding missed opportunities due to procedural delays. This efficiency is vital for sustaining a competitive advantage in a fast-paced investment environment, where timely assessment and action are essential. In this context, formalization also becomes crucial as a risk mitigation strategy by introducing systematic checks and balances into the investment process (Cauwenbergh et al., 1996).

Additionally, a high rate of investment may underscore an angel group's consistent engagement with new ventures. Each of these ventures brings its own set of challenges and learning curves (Botelho et al., 2023). As the angel group delves into these diverse dynamics, the ability to learn and adapt swiftly emerges as a pivotal factor in its success. This regular engagement necessitates rapid assimilation of lessons from each investment. Consequently, the group may be compelled to emphasize formal learning mechanisms, such as post-investment reviews and performance analytics (Sitkin, 1992; Harrison et al., 2015). These structured approaches can furnish invaluable insights, empowering angel groups to fine-tune their strategies in real-time.

A higher rate of investment signifies an active and aggressive approach within the investment arena. This robust activity often garners attention for multiple reasons. For co-investors, frequent investments might indicate potential lucrative opportunities (Braun et al., 2018) or, conversely, risky ventures (Greenberger, 2007) prompting them to keep a closer eye on the group's choices. Regulatory bodies, responsible for maintaining market integrity and investor protection, often monitor high-frequency investors to ensure compliance and to detect anomalies or potential market manipulations (Chung et al., 2019). Prospective members, on the other hand, use the group's investment frequency as a measure of its vitality, dynamism and potential return on investment (Mason et al., 2019). In essence, the accelerated pace of investments acts as a signal, drawing external scrutiny due to its implications for market dynamics and stakeholder interests.

Furthermore, a high rate of investment also signals a robust deal flow, suggesting that the group is actively sourcing and analyzing numerous investment opportunities. This frequent engagement may necessitate specialized roles within the group for scouting, due diligence and post-investment management (Hellmann & Puri, 2002). This creates a need for a common approach within the group, which could naturally foster formalization (Sölvell, 2008). As the group grows and diversifies its investment portfolio, specific responsibilities and procedures must be clearly outlined to prevent role confusion and inefficiencies. Through these interconnected dynamics, the rate of investment could wield significant influence over the degree of formalization in angel groups. Thus, I propose the following hypothesis:

> H2a: A higher investment rate by angel groups is positively associated with the degree of formalization.

An increase in the rate of investing within angel groups leads to greater complexity and diversity in their investment portfolios. This complexity arises not just from the number of investments the group undertakes, but also from the varied nature of opportunities and associated risks that investments come with (Bartkus et al., 2013). To manage this effectively, angel groups might turn to a centralized decision-making approach that can ensure coherent investment decisions and a consistent approach towards risk management. This can in turn, lead to quicker decision-making regarding investments, and maintaining consistency across the portfolio (Andrews et al., 2007). This approach aligns with venture capital firms, that undertake a centralized approach to decision making in the form of general partners and limited partners, that aids in efficient evaluation of investments and management of diverse portfolios (Payne et al., 2009). Furthermore, in settings like angel groups that are small and entrepreneurial, strategy - such as exit strategies in this case - can emerge from a single member or a core team, and a centralized approach allows the strategists to pursue their vision cohesively (Ouchi, 1980, 1993; Hales & Tamangani, 1996; Mintzberg, 1979).

Conversely, angel groups with lower rates of investment could gravitate towards decentralization to better utilize limited resources. This approach distributes decision-making among members, tapping into collective expertise and diverse perspectives, particularly beneficial when capital is scarce (Mason et al., 2019). Decentralization encourages adaptability and effective problem-solving (Barker, 1993; Goodman et al., 1988), crucial for early-stage investments where agility is key to success. A distributed locus of decision-making can enhance the decision quality by integrating diverse perspectives,

drawing upon the collective expertise and insights of multiple members (Nooraie, 2014). This multiplicity of viewpoints not only enriches the decision-making process but also fosters greater member engagement. When members feel that their opinions are valued and considered, their commitment to the outcomes of the group's decisions intensifies. Lower investment rates could incentivize angel groups to embrace decentralization, utilizing collective intelligence and adaptability to navigate the investment landscape effectively and align each opportunity with strategic goals, leading to the hypothesis:

> H2b: A higher investment rate by angel groups is positively associated with degree of locus of decision making.

Formalization may enhance the reliability of exit decisions by mitigating unexpected challenges and minimizing ad-hoc decision-making (Mintzberg, 1979; Kirui & Onyuma, 2019). Within angel groups, a formalized approach could include rigorous due diligence, thus enhancing the integrity of exit strategies through detailed risk-reward evaluations. Moreover, formalization might align the objectives of angel group members with those of the investee company. Clearly defined and formalized exit objectives can foster stakeholder cohesion, potentially accelerating the exit process.

However, it is essential to contextualize formalization within a broader spectrum. Internal organizational frameworks must be in harmony with dynamic external market forces to ensure long-term success (Ouksel, 2002; Silvestrelli, 2018). Formalization enables angel groups to incorporate strategic foresight into their exit planning, using structured market analysis and trend forecasting. By institutionalizing forward-looking practices, groups are better positioned to anticipate market shifts and align their exit strategies accordingly, improving the timing and success of exits.

Therefore, formalization acts not only as an internal organizational tool but also as a bridge connecting the operational intricacies of the angel group with the ever-changing external marketplace. This alignment may be further strengthened by employing performance metrics (Kaplan & Norton, 2008) and coordinated internal mechanisms (Gulati & Puranam, 2009). By making exit strategies an integral part of the organizational structure, insights from past exits can inform future strategies. Formalization thus serves as both a guide and a foundational blueprint, shaping exit strategies with precision, consistency and strategic alignment. A formalized approach to exits promotes the institutionalization of learning, systematically capturing and analyzing insights from previous exits. This continuous improvement cycle ensures that

each exit strategy benefits from cumulative experience, reducing reliance on intuition and grounding decision-making in a more empirical and data-driven approach. The ensuing hypothesis is:

> H3a: A higher degree of formalization is positively associated with planned exit strategies.

Shifting the focus to the locus of decision-making, it is argued that its significance extends beyond mere structural considerations, emerging as a pivotal strategic factor with profound implications for exit strategies. Centralized decision-making, exemplified by venture capital funds, facilitates rapid adjustments to market changes and potentially enhances exit timeliness (Achleitner et al., 2013). A central locus ensures alignment with broader investment objectives, maintaining coherence and strategic consistency throughout the investment process (Andrews et al., 2009). Through centralized decisions, angel groups can emphasize efficiency and accountability, which may lead to faster learning and iterative improvements in investment strategies (Ouchi, 1980; Andrews et al., 2009). Therefore, from the development of strategy to execution, actions by group members should closely align with the group's overarching goals.

Conversely, some angel groups, particularly those that are 'member-managed' (Mason et al., 2019), opt for decentralization, granting more autonomy and welcoming varied perspectives. This decentralization fosters innovation and broadens the range of strategic inputs, culminating in a more comprehensive decision-making process (Jansen et al., 2006; Hall & Saias, 1980). The diversity of expertise, backgrounds and risk profiles within the group can provide a richer understanding of market dynamics, encouraging the development of organic, emergent exit strategies. These strategies are not merely reactive but result from the synthesis of diverse insights, striking a balance between optimism and caution.

The critical issue, therefore, is finding a dynamic equilibrium that aligns with an angel group's strategic objectives. As decision-making veers towards centralization, a tendency may arise for methodical, unified exit strategies that mirror the group's philosophy, thereby enhancing both efficacy and accountability. Conversely, when angel groups favour a distributed locus of decision-making that incorporates diverse viewpoints, there is a noticeable inclination towards emergent exit strategies. With these considerations in mind, the hypothesis to be explored is:

H3b: A higher degree of locus of decision-making is positively associated with planned exit strategies.

4.4.2 Categorization of Angel Groups and Exit Strategies

The hypotheses presented thus far offer a comprehensive overview of exit strategies in angel groups, addressing aspects such as financial capital, formalization and the locus of decision-making. This quantitative foundation provides a robust starting point for understanding the factors influencing exit strategies. However, to gain a more complete understanding of how these factors interact and manifest within specific angel groups, further exploration is necessary.

In this section, I classify angel groups into four distinct archetypes based on their levels of formalization and locus of decision-making. Similarly, I categorize exit strategies into four types based on their rigidity and focus. By examining the intricacies of formalization and locus of decision-making, we can argue that angel groups can be categorized into distinct operational archetypes. These archetypes mirror the strategic choices made to design and synchronize exit strategies. I then hypothesize that specific types of angel groups might gravitate towards certain exit strategies.

To complement the quantitative analysis and gain a more comprehensive understanding of how angel groups navigate formalization, locus of decision-making and exit strategies in practice, a qualitative case study will be conducted later in the research. The case study will focus on an angel group selected from the first cluster identified in the quantitative analysis. This cluster, marked by its balanced approach to formalization and distributed decision-making, presents a unique opportunity to explore the dynamics and processes that shape exit strategies within this particular archetype.

By incorporating the case study into the research design, this document aims to demonstrate the cohesive nature of the investigation, bridging the macro-level insights derived from the hypotheses and archetypes with the micro-level understanding gained from the in-depth examination of a specific angel group. This approach recognizes the value of both quantitative and qualitative methods in uncovering the complexities of exit strategies in angel groups and provides a comprehensive framework for understanding the phenomenon.

Exit strategies can be conceptualized along two main dimensions. The first dimension spans from rigidity to adaptability. At one end, rigid plans emphasize a meticulously structured, predetermined exit strategy. Here, angel

groups generally have a detailed roadmap from the beginning, outlining conditions, timelines and anticipated returns. Such strategies often involve thorough research, risk evaluations and scenario planning. For instance, an investor might set a specific exit timeline, delineated by expected ROI markers and conditions for exit (Cumming, 2008; Botelho et al., 2021). While these plans offer clarity, they might struggle when confronted with unforeseen market changes. On the opposite end, adaptable strategies offer flexibility, adjusting to market fluctuations, portfolio company outcomes or macroeconomic changes. An investor might initially aim for a five-year exit but modify this based on various influencing factors.

The second dimension differentiates between an exit-centric and a journey-focused approach. The exit-centric view centers on the final outcome, with the primary goal being a successful exit, whether via a lucrative sale, an IPO or another profitable divestment route. Success is chiefly measured by the financial outcome of the exit. Conversely, the journey-focused approach underscores the entire investment journey from inception to exit. Investors here value the partnership with their portfolio companies, emphasizing growth, sustainability and value creation. This approach may involve active mentoring, regular performance checks and strategy pivots to align with market needs. Although the exit remains an integral component, the main emphasis is on nurturing growth and creating value. Given the diversity in exit strategies, it is intriguing to probe their relationship with the inherent characteristics of angel groups.

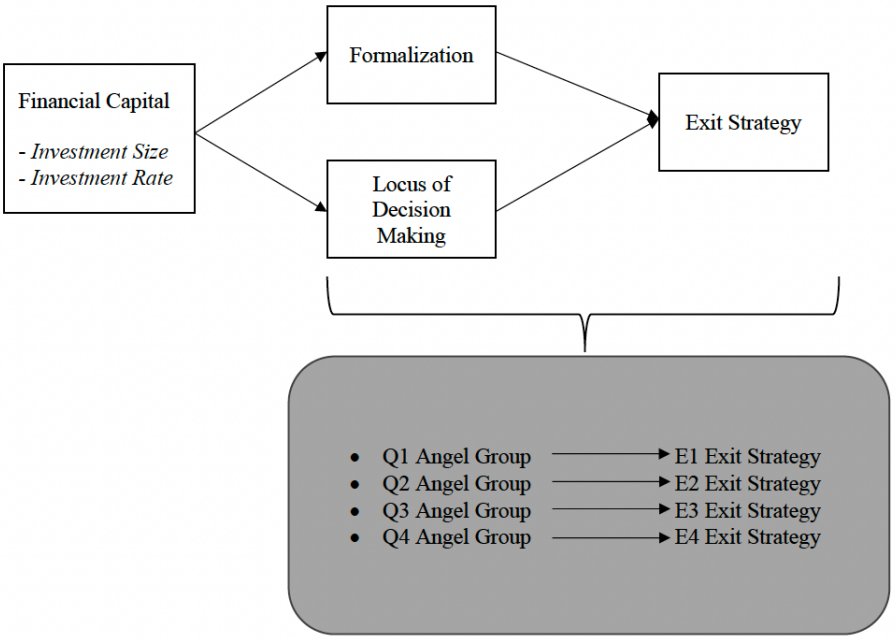


Figure 2: Extension of the Proposed Associations

Quadrant 1 "Managed Angel Groups": High formalization and centralized locus of decision-making

Quadrant 1 angel groups or 'managed angel groups' combine high formalization with centralized decision-making, creating an environment that prioritizes planned, exit-centric strategies. Mason et al. (2019) discusses "managed groups" that fall under this category, with their structured approach and stringent governance mechanisms, including boards of directors, rigorous membership criteria, efficient deal flow systems, presence of gatekeepers, etc.

From the outset, their well-defined exit strategy could provide a clear roadmap detailing conditions, timelines and anticipated returns. This clarity, potentially facilitated by centralized leadership, may ensure streamlined, efficient decision-making processes, offering predictability in an otherwise volatile investment landscape. With such a strong emphasis on a predetermined exit

route, deviations could be minimal, even in the face of unpredictable market dynamics.

For these angel groups, success metrics are predominantly defined by the exit's financial returns (Mason et al., 2019). With their exit-centric stance, investments could be strategically channeled towards industries or companies displaying clear indicators of lucrative exits in the near future. Every potential risk may be meticulously assessed to ensure that the entire investment trajectory aligns with the intended exit strategy (Mason et al., 2016).

The high formalization characteristic of managed angel groups could necessitate rigorous monitoring protocols. Consequently, they may employ structured monitoring techniques like systematic performance tracking and routine reviews anchored by key performance indicators (KPIs). Such thorough oversight not only ensures adherence to the exit plan but also establishes transparent roles and objectives for members, delineating a clear path throughout the investment lifecycle (Mason et al., 2019). Furthermore, angel groups could utilize high formalization and centralized decision-making as risk mitigation strategies. When there are significant investments at stake, the propensity to absorb risk decreases (Cumming, 2008). This combination ensures a unified response to market fluctuations, preventing disjointed and potentially conflicting strategies from emerging within the group.

In summary, it could be proposed that centralized locus of decision-making and high formalization inherent to managed angel groups culminate in a sharply focused, well-defined exit strategy that resonates throughout the entire investment journey. Every facet of the group's structure and processes might be fine-tuned to efficiently achieve this predetermined exit, guaranteeing alignment across all investment dimensions.

Quadrant 2 "Hybrid Angel Groups": High formalization and distributed locus of decision-making

Quadrant 2 or hybrid angel groups could adeptly merge the consistency of high formalization with the versatility of distributed decision-making, giving rise to a nuanced investment environment.

This fusion might strike a balance between stability and adaptability, potentially setting the stage for exit strategies that are both anchored in detail and responsive to the ebbs and flows of the investment process.

Central to their methodology may be a well-defined exit strategy established from the onset. However, their focus might not be solely on a predetermined

exit outcome. Instead, these groups could place significant emphasis on the entirety of the investment journey, recognizing that true value stems not just from the end goal, but also from the entire relationship with the portfolio company, fostering growth and ensuring long-term sustainability (Politis, 2016). In this context, the distributed decision-making could allow individual members or specialized sub-groups a degree of freedom in shaping exit strategies. Yet this autonomy might not be absolute. All decisions could adhere to the group's foundational guidelines ensuring that, while tactical approaches might vary, the overarching strategic direction remains aligned (Lewis & Zalan, 2012).

The high formalization characteristic within this quadrant may ensure alignment and provide clarity. It could ensure that, despite variances arising from decentralized decisions, there remains a uniformity in action, especially concerning similar ventures. This might be bolstered by universally applied monitoring systems that evaluate performance and identify opportunities, anchoring each subgroup's actions to the broader group's vision.

What might distinguish managed angel groups is their capacity to adapt within established boundaries. While the decentralized structure allows sub-groups to swiftly adjust to market shifts, the broader formalized framework acts as a protective barrier, ensuring these adjustments stay aligned with the group's overarching goals.

In summary, managed angel groups strike a delicate balance. They don't exclusively prioritize the exit, nor do they act without structure. They deftly combine a solid initial strategy with an ongoing, journey-centric focus, all under the watchful eye of formal controls and guidelines that steer their collective efforts.

Quadrant 3 "Core-Periphery Groups": Centralized locus of decision-making and low formalization

Quadrant 3 angel groups could combine centralized decision-making with a distinctly low level of formalization, manifesting in an organizational model that is reminiscent of Mason et al.'s (2019) 'core-periphery model.' This model might highlight a pivotal leadership core that establishes the primary directives, surrounded by a periphery of members who adapt and execute based on these overarching guidelines.

While the centralized leadership could lay down the essential direction for exit strategies, the absence of a stringent formalized framework may infuse a level

of agility into the process. Members, though adhering to the central tenets, might have the capacity to fine-tune and modify these strategies. This flexibility could allow them to account for the capricious nature of market conditions and draw from their personal experience and skill set. However, this adaptability is likely not limitless and remains anchored to the broad directives set by the group.

This blend of centralized focus and flexibility may lead to an interesting dichotomy in their approach to exits. On one hand, the low formalization could nurture an environment where fluidity in roles is encouraged, leading to a vibrant exchange of ideas. This environment might foster innovative and out-of-the-box thinking concerning exits. On the other hand, this malleability doesn't necessarily translate to chaos. The centralized decision-making ensures that, despite varied strategies, they ultimately aim to fulfill the group's primary exit-centric goals.

Instead of relying heavily on regimented monitoring systems, this group could lean towards more spontaneous, adaptable methods to gauge performance and discern the most opportune exit paths. Strategies might evolve in real-time, molded by member judgments, experiences and informal networks rather than by rigid guidelines and frameworks.

In essence, core-periphery angel groups could distinctively lean towards exit-centric strategies but execute them with a degree of flexibility that allows them to navigate the unpredictable terrains of the investment landscape.

Quadrant 4 "Network-Centric Angel Groups": Low formalization and distributed locus of control

Angel groups in this quadrant could be distinguished by their low levels of centralized decision-making and formalization, thereby facilitating an emergent and adaptive approach to exit strategy. Often described as 'networks,' these groups perform various functions, ranging from investment screening to educational initiatives and mentorship programs for emerging business angels (Croce et al., 2017; Månsson & Landström, 2006). The decentralization, coupled with lenient membership prerequisites, may pave the way for informal norms to drive investment and exit decisions, potentially endowing individual members with significant autonomy. This autonomy could be conducive to real-time adaptability in investment strategies. Unlike groups in other quadrants, the focus here might be less on exits and more on the continual growth and sustainability of portfolio companies (Mason & Harrison, 2006).

This adaptability allows for a nuanced approach to exit strategy; individual members or sub-groups could have the discretion to tailor strategies based on their unique objectives, risk tolerances, and insights, thereby possibly enriching the collective intelligence and adaptability of the angel group.

The network's fluid architecture might foster a culture of collaboration, creating a platform for the exchange of ideas, perspectives, and experiential learning. Instead of stringent monitoring systems, these groups could lean towards more flexible, ad hoc performance tracking and evaluation mechanisms for spotting exit opportunities. Consequently, their exit strategies might sprout more organically, sculpted by individual insights and a web of informal interactions. The structure of these angel groups could allow for remarkable adaptability and responsiveness to fluctuating market conditions. Exit strategies can be swiftly recalibrated in the face of new information, thereby optimizing the potential for successful exits and robust investment returns. In essence, network-centric angel groups might seamlessly blend adaptability with a focus on long-term growth.

5. Research Methodology

My research questions target two facets of angel groups. Firstly, I aim to understand how angel groups are organized, focusing on the extent of their heterogeneity in terms of formalization and the locus of decision-making and their association with exit strategies. Secondly, to understand how angel groups utilize their resources in pursuit of exit strategies.

The chosen methodology, mixed-methods research (Cresswell, 2014) reflects this approach. This chapter presents the research methodology implemented and the reasons behind it. The subsequent chapters present the different phases of the process and describe the two main stages of data collection and analysis undertaken: a survey and a case study.

5.1 Mixed Method Research Design

Mason et al. (2019) emphasize the current state of research on business angel groups, pointing out that it consists of only a few case studies - primarily authored by practitioners (e.g., May & Simmons, 2001; May, 2002; Cerullo & Sommer, 2002; Payne & Mccarty, 2002; May & O'Halloran, 2003) - and a limited number of scholarly studies (Sudek, 2006; Becker-Blease & Sohl, 2011; Gregson, Mann & Harrison, 2013; Carpentier & Suret, 2015; Mason, Botelho & Harrison, 2016; Croce, Tenca & Ughetto, 2017). Alongside these, there are some general discussions (Mason, 2006; Sohl, 2007, 2012), which lead to the characterization of this field as having a dearth of evidence. In the literature review chapter, this scarcity is also illustrated by the limited knowledge about the overall presence of business angel groups in the early-stage financing market. The field could be seen as undergoing a transition from research in its infancy to more mature research, featuring descriptive examples but lacking conceptual grounding.

Consequently, when determining the appropriate research design for this study, I adhered to the principle of methodological fit (Edmondson &

McManus, 2007) to ensure alignment between the research design, research questions, the current state of prior research and data analysis methods. This approach led to the adoption of a mixed-methods design.

Mixed methods research typically involves "at least one quantitative method (designed to collect numbers) and one qualitative method (designed to collect words), where neither type of method is inherently linked to any particular inquiry paradigm" (Greene et al., 1989, p.256). This approach encompasses both the gathering of qualitative (open-ended) and quantitative (closed-ended) data to address research inquiries and the subsequent analysis of this diverse data set (Creswell, 2014). One of the primary challenges in employing mixed methods lies in the requirement for the researcher or research team to be proficient in both qualitative and quantitative methodologies. If either component's development, analysis or resourcing is deficient, it can have negative consequences for the entire study (Halcomb, 2019). Therefore, for a successful implementation of mixed methods, transparency is crucial. Bryman (2014) argues that the research phases, methods and their application need to be clearly articulated and linked to the research questions. The relationship between the two components should be specified and their integration explained.

In this research, understanding the state of business angel groups in Sweden is the first step due to the limited research available and the heterogeneity of angel groups. To achieve this, exploratory interviews were conducted with angel group members and related stakeholders such as employees, managers and entrepreneurs. The purpose of these interviews was to understand the context and nuances of the research problem, refine research questions, identify relevant cases, theories or frameworks, inform sampling strategies and select appropriate methods for data collection and analysis (Palinkas et al., 2015).

Exploratory interviews are essential for understanding the research problem's context and nuances (Patton, 2014). They can help researchers develop a deeper understanding of the research setting, participants and issues. Similarly, Yin (2018) emphasizes the importance of conducting exploratory interviews with key informants, such as angel group stakeholders, to identify relevant cases, formulate research questions and determine appropriate data collection and analysis methods. Therefore, this research responds to Bryman's (2014) advocacy for clarity and explicit detailing of the stages and methodologies employed in mixed-method studies.

In this research, a two-step approach was employed: initially, a quantitative phase involving a survey, followed by a qualitative phase through a case study. The selection of these methods, their sequential implementation and the guiding research questions shape the study's design as one of complementarity. This approach is defined as using both qualitative and quantitative methods to explore different but related aspects of a phenomenon, thereby providing a more comprehensive understanding (Greene et al., 1989). The aim of a complementary mixed-method study is to enhance, illustrate and clarify findings from one method with insights from the other (Onwuegbuzie & Combs, 2011).

Surveys were distributed to angel groups in Sweden to establish a foundational understanding of their organization, to cluster them based on this typology and to ascertain if different types of angel groups adopted varied exit strategy approaches. This step is particularly significant because existing research on angel groups is still in its nascent stages regarding empirical data. The only widely accepted understanding is the considerable heterogeneity in angel groups' operational structures (Mason et al., 2019). The literature review further highlighted a lack of clarity on how angel groups utilize available resources for exit strategizing, despite having the capability to do so. Given the principle of methodological fit for individual methods, survey analysis is deemed especially fitting for this research as it allows for both generalization and the testing of relationships (Creswell, 2014).

The adoption of a sequential mixed methods design in my thesis is also motivated by the insights surfaced in the quantitative survey. The survey, probing into the diverse operational paradigms of angel investing groups, revealed mixed results with particularly intriguing findings related to one specific cluster – the first cluster. This cluster stood out due to its distinctive embodiment of strategic agility, reflective of the evolving trends in modern angel investing (Mason et al., 2019). While quantitative analysis offers valuable insights, it often cannot achieve the depth of understanding that qualitative analysis can provide. Moreover, qualitative methods are often utilized in research areas where there is a scarcity of existing knowledge, as highlighted by Tashakkori and Teddlie (2010). In this research, the sequential qualitative approach seeks to add additional depth to the quantitative inquiry. While the survey targets a foundational understanding of how angel groups are structured and whether there is a correlation between the type of angel group and their exit strategies, the qualitative component employs a case study approach, focusing on a single angel group and gathering data through interviews and documents. This qualitative aspect aims to discern how angel

groups harness their collective resources and pursue exit strategies, by delving into how formalization and locus of decision-making manifest in practice. Greene et al. (1989) term the objective of such a mixed-method design as "explanatory." Researchers use this design to broaden the depth and breadth of their understanding of a phenomenon. The qualitative component delves into the practice, while the quantitative part introduces empirical rigour and contextualizes the study.

In summary, considering the research questions, the design and the current state of related studies (Edmondson & Mcmanus, 2007), a mixed-methods approach is highly suitable for investigating the proposed subjects. This hybrid strategy enhances the validity of the research, providing both macro and micro points of view on the phenomena studied. Such approach is adept at uncovering new insights and addressing gaps in existing knowledge (Yauch & Steudel, 2003). The mixed-methods approach can be advantageous because it offers a holistic view of angel groups, moving beyond the traditional quantitative/qualitative dichotomy. As Teddlie and Tashakkori (2009) argue, mixed methodologies advocate "the use of whatever methodological tools are required to answer the research questions under study", favouring a "methodological eclecticism" (Tashakkori & Teddlie, 2010, p.6-7). Mixed methods are invaluable for both confirming and constructing theories, as they capitalize on the complementary strengths and mitigate the weaknesses of each approach, acknowledging the multifaceted and intricate nature of reality (Byrne & Humble, 2007).

5.2 Pilot Interviews

The formulation of the survey was preceded by an analysis of relevant past literature findings and a set of pilot interviews. The literature review laid the groundwork for the research topic and the initial drafting of the research questions. Subsequently, the pilot interviews provided a detailed understanding of the business angel group context in Sweden, which shaped the survey instrument's creation and refinement. Hence, the pilot interviews had the scope of both integration and validation of the survey.

The pilot study encompassed six interviews in total: three with members from distinct angel groups of varying sizes and scopes (one in-person and two via Zoom), two with stakeholders responsible for managing angel groups and networks (conducted via Zoom) and one with an entrepreneur who had

procured funding from an angel group (via Zoom). These interviewees were sourced from the university's network, which includes a vibrant startup ecosystem. The pilot interviews aimed to grasp the landscape of early-stage financing in Sweden and to discern the activity range of angel groups – from investing and management perspectives to capital raising. The interview guides for the pilot sessions can be found in appendix A, along with pertinent quotes that informed the research and survey development.

5.3 Survey

5.3.1 Survey: Sources of Data

To gather the necessary data for the study, I adhered to the following definition of an angel group: "a consortium of individual angels that collaborate to manage deal flow, process deals and make their own investment decisions, at varying levels of size, formality and structure" (Mason, 2015). This classification is significant, as the pilot interviews confirmed the presence of angel groups with a diverse range of operating structures. These seemed to range from highly structured, venture capital-like approaches to more adaptive and unique arrangements. However, all these variations fundamentally represent the concept of angel groups. Hence, rather than limiting the study to a single archetype in the quantitative analysis, it is vital to grasp the spectrum and depth of various angel group types. This insight informs the decision to use a purposive sampling approach, a non-random sampling method. In purposive sampling, participants are chosen based on specific criteria (Bryman, 2012). In this research, angel groups that qualify under the definition operating in Sweden are targeted. Non-random probability sampling methods, such as purposive sampling, may not yield a representative sample of the entire population in some research contexts. However, in situations where the population is difficult to define or access, such as the context of angel groups, purposive sampling provides valuable insights, targeting the research question and offering an efficient method for data collection.

The survey focused on angel groups in Sweden. Sweden, with its distinctive entrepreneurial ecosystem, presents a captivating backdrop for studying angel groups. Positioned at the crossroads of high innovation and a cooperative business culture (WIPO, 2023), it creates an ideal setting to study early-stage investments where business angel groups predominantly operate. This blend

of collective culture with investment strategy offers a unique perspective for examining the dynamics of decision-making and formalization. The Swedish landscape is also characterized by robust integration of technology and sustainability (Gabrielsson et al., 2014). Many startups merge tech innovation with environmental and societal objectives, leading angel groups in Sweden to often traverse a dual path of financial returns and sustainable impact. Probing how these angel groups reconcile and prioritize these twin objectives can offer fresh perspectives on the evolving role of angel investors in supporting sustainable entrepreneurship (Siefkes et al., 2023). Additionally, angel groups in Sweden may provide an example of fostering successful collaboration amongst diverse investor profiles. With the country's focus on egalitarianism and collaboration (Bendixsen et al., 2015), its angel groups might showcase innovative collaborative models that allow a heterogeneous set of investors to combine their expertise. Moreover, Sweden's regulatory framework supports the functioning of stock exchanges that allow for the listing of early-stage companies, like the Spotlight Market and Nasdaq First North. Research has shown that such alternative stock exchanges invigorate the investment landscape (Bernstein et al., 2020), and provide investors such as angel groups with tangible exit opportunities. In essence, studying angel groups in Sweden not only deepens our understanding of their strategies within this specific context but also offers transferable knowledge. The insights derived can guide angel groups in other regions, such as Canada, the United Kingdom and Italy (Carpentier & Suret, 2015; Harrison et al., 2016; Bonini et al., 2018) to navigate their unique challenges, foster collaborative investment cultures and balance financial and sustainability objectives.

To identify angel groups operating within Sweden, various sources and search strategies were employed, an approach that augments the diversity of the sample (Bryman, 2012). The primary resource was "Connect Sverige" (https://connectsverige.se/), an angel network service that facilitates deal flow for angel investors and groups and offers a platform for them to form syndicates. Connect Sverige provides additional services to its members, including investor training, market research and pitch competitions, all aimed at supporting and developing the network's participants. With 550 business angels operating in Sweden and investments totaling 1,095 million SEK from 2019 to 2022, they hold a significant position in the early-stage capital ecosystem. Their broader network comprises 15,000 members, which includes angel investors, entrepreneurs and other stakeholders, solidifying their role as a pivotal player in the industry.

For the purposes of this research, I liaised with the managers of Connect Sverige, leveraging a distinct mailing list of members that comprised solely of angel groups and their representatives, that were consistent with the definition used in this study. Distributing the survey through this trusted intermediary not only elevated the relevance of the respondents but also boosted the response rate.

5.3.2 Survey: Design and Structure

The survey instrument was developed through a multi-stage process involving a comprehensive literature review and pilot testing. The literature review provided the foundation for identifying the research topic, formulating research questions and drafting the initial survey. Pilot testing was subsequently conducted to refine the survey items and response options.

Two rounds of pilot testing were carried out. The first round involved six academics from the field of entrepreneurship, while the second engaged four angel investors from diverse backgrounds. Their detailed feedback facilitated the clarification of potentially ambiguous terms, simplification of survey responses and ensured conceptual consistency throughout the instrument.

Upon opening the questionnaire, respondents were greeted by a headline, as presented in Appendix C. This headline explained the survey's scope, emphasized the importance of participation, highlighted its focus on Sweden and asked respondents to concentrate on a representative investment made by their group. Following this introduction was the initial question, which aimed to determine whether respondents invested through an angel group or had never done so. If they chose the latter, they were directed to the survey's conclusion, where reasons for not joining an angel group were enumerated, ending with a thank-you note. This option was included to filter out individuals who were not part of angel groups but had received the survey. This approach ensured the integrity of the final data was maintained. Four respondents fell into this category.

The complete survey (Appendix C) comprised four main areas: 1) the nature of the investee company, 2) the angel group's structure, focusing on formalization and decision-making locus, 3) the investment's exit strategy, and 4) demographic details and investment background. Participants were consistently reminded to center their responses around a specific investment made within their angel group, providing insights into both deal structuring and exit strategy.

The survey delved into various aspects of angel groups' operations in relation to a single investment. This included pre-investment routines (deal origination, screening, due diligence) and post-investment decision-making mechanisms. The survey also investigated member roles, responsibilities, recognition and documentation practices, providing comprehensive insight into the groups' degree of formalization and decision-making locus.

Each survey question was grounded in existing literature spanning business angel studies, venture capital insights, management studies and organizational studies (Botsari et al., 2022; Bonini et al., 2017; Morgeson & Humphrey, 2006; Cuskelly et al., 2006; Stuart, Hoang & Hybels, 1999; Karasek et al., 1998; Podsakoff et al., 1993; Iverson & Roy, 1994; Kalleberg, 1996; Breaugh & Becker, 1987; Spector, 1986; Aiken & Hage, 1970, 1967).

The initial survey constructs, derived from the literature, were further refined and adjusted to enhance their relevance to the contemporary empirical context of angel groups. This refinement was informed by feedback from the pilot interviews, ensuring the survey items were tailored to the current operating state of angel groups.

A seven-point Likert scale was used for each question to capture respondents' views and experiences. The two core constructs under study, the locus of decision-making and formalization, were intermingled in the scale design to avoid discernible patterns that might bias respondents. Additionally, reverse-Likert scale items were embedded within the survey as quality control checkpoints, ensuring respondent engagement and answer coherence. This approach, rooted in established literature, iteratively refined through pilot interviews and methodologically sound in design, aimed to produce robust, reliable and highly relevant insights into the operations and strategic decision-making processes of angel groups.

To investigate the exit strategies employed by angel groups, the survey scales were informed by existing literature, particularly Botelho et al. (2021), which examined individual angels' exit strategies. Given the conceptual similarities between individual angel and group investment strategies, this reference served as a pertinent benchmark. The survey scales related to strategic planning and implementation were further enhanced by insights from Elbanna and Child (2007) and the pilot study, ensuring methodological soundness and relevance to angel group investment dynamics.

The survey included demographic and background questions capturing attributes such as age, education level, current occupation, industry experience and angel group investment focus. These control variables were based on

established research protocols, with historical studies emphasizing the differentiation among angel investors based on factors such as investment amount and competency (Sørheim & Landström, 2001). Questions on education level, work experience and investment focus were integrated, as these have been shown to influence an investor's competence in past literature.

Consistent with other scholarly surveys focused on early-stage financiers, respondents were asked to indicate their highest level of education (Civardi et al., 2023; Feola et al., 2019). To uncover underlying competencies or tendencies influencing investment decisions, respondents were also asked about specific educational or professional experiences directly tied to their investment acumen or preferences.

In line with the study by Collewaert and Manigart (2016) on angel investing, the following variables were included: if the investors had obtained a university degree, and the industries they have worked in or had experience in as an entrepreneur/start-up founder/professional. Furthermore, whether the angel group had any specific industry specialization and the rate of investment of the angel group was recorded as well.

The survey employed a seven-point Likert scale for several reasons:

1. Increased sensitivity to differences in opinions or attitudes (Preston & Colman, 2000), allowing respondents to accurately represent their opinions and leading to a more nuanced understanding of the data.
2. Improved reliability (Komorita & Graham, 1965; Kusmaryono et al., 2022).
3. Better discrimination between respondents with different levels of agreement or disagreement (Jamieson, 2004), facilitating a deeper understanding of the underlying factors driving observed differences in opinions or attitudes.
4. Increased statistical power compared to a five-point Likert scale, due to greater data variability (Lozano, García-Cueto & Muñiz, 2008), making it easier to detect significant differences or relationships between variables in the analysis.

5.3.3 Survey: Data Collection

The questionnaire for this study was developed using Lund University's licensed online survey tool, Artologik. The survey was available for responses

in three stages in the year of 2023: first from June 1st to June 26th, then from June 27th to July 24th, and finally from July 25th to August 25th. The survey link was disseminated through the mailing list of Connect Sverige to the official email addresses of the angel groups or their representative. The choice to conduct multiple rounds of data collection was influenced by the summer timing, as many angel group members would likely be on vacation. Past literature also emphasized challenges with response rates in research concerning business angels (Mason & Harrison, 2008; Argerich & Cruz-Cazares, 2017). With these considerations and the aim to attract a broader respondent base, the survey was disseminated on three separate occasions.

To mitigate the risk of duplicate responses, survey settings were configured to permit only one submission per computer or device. In this case, through Connect Sverige, the collaborating angel network, reminders were exclusively sent to those members who hadn't completed the survey. Their built-in mailing system facilitated this "selective reminder distribution," a strategy known for its efficacy in exclusively targeting non-responders, reducing redundancy, and preserving a positive participant experience. The network itself handled reminder distribution. Moreover, participant data was stored in a format ensuring anonymity, making it impossible to trace back individual responses to specific respondents.

All survey questions were designated as mandatory to ensure complete submissions. The design also included Likert scale statements intended to assess response consistency. For example, items with contrasting sentiments were placed adjacently occasionally, so consistent scoring would be expected from genuine respondents. Conversely, inconsistent scoring could indicate random or careless responses. Together, these mechanisms ensured the acquisition of high-quality, analysis-ready responses.

As an incentive, respondents were offered the finalized research study via email. Many participants, recognizing the study's significance, requested a copy of the survey findings, indicating their enthusiasm for the research and its relevance to the domain of business angel groups. In line with best practice, all participants were assured of anonymity and confidentiality (Miles, Huberman & Saldana, 2014; Podsakoff et al., 2003).

The survey received a total of 188 answers, 25 of which fell into the “I’m not a part of an angel group” category. Of the remaining 163, three of the responses failed the quality check, and the responses were deemed to be random. Following a thorough reliability analysis, the rest of the 160 responses were deemed logical and consistent and were therefore utilized in the study. The

responses exhibited significant variability, with no participant randomly filling in the answers by consistently favouring a unique response option on the Likert scale; while response patterns featuring only minor alterations were manually examined to ensure their logical consistency (Meade & Craig, 2012). In order to avoid common method bias, several measures were implemented. Common method bias can be a potential source of error in survey research where independent and dependent variables are obtained from the same survey; in such cases, the variance observed in the responses is caused by the measurement method employed rather than the underlying construct being represented (Podsakoff et al., 2003; Podsakoff, MacKenzie & Podsakoff, 2012).

Table 1: Remedies undertaken against common method bias (based on Podsakoff et al. 2003, 2012).

Remedy and rationale	Implementation
Procedural Remedy	
Protecting respondent anonymity	Respondents' anonymity is ensured and they have the option to not answer any of the demographic questions asked.
Reducing item ambiguity	The survey has been subject to two rounds of testing with academics from the field of entrepreneurship and a subset of angel investors from varied backgrounds. This enabled the identification of ambiguous or sensitive questions and answers and these were reformulated.
Proximal separation between independent variables and dependent variables	The survey separates the question related to exit strategies (dependent variable) from the independent variables' questions, on a different questionnaire page. Furthermore, the order of the answers related to independent variables was randomised, to create distance among items measuring related constructs.
Eliminating common scale properties	The independent and dependent variables have varied measurements, including Likert scale from 1 to 5, 1 to 7, and are also turned into continuous variables during the analysis.

5.3.4 Survey: Analytical Methods Employed

The analytical methods employed in this study are designed to address the research objectives and questions in a sequential manner, with each analysis

building upon the findings of the previous one. This approach allows for a comprehensive understanding of the relationships between angel group characteristics, formalization, locus of decision making and exit strategies.

The analysis begins with K-means clustering, an unsupervised learning technique that identifies natural groupings within the dataset by minimizing the within-cluster sum of squares (Jain, 2010). This technique is applied to categorize angel groups into clusters based on their characteristics captured through the survey. K-means clustering is an iterative algorithm that minimizes within-cluster variance, making it an accessible and easily interpretable technique (MacQueen, 1967). The calculation of cluster centroids provides insights into the average characteristics of each quadrant, helping to identify the key features that distinguish different angel groups (MacQueen, 1967).

After identifying clusters of angel groups, the second part of the survey assesses how belonging to a specific cluster affects exit strategy. The Kruskal-Wallis test, a non-parametric method, is employed to compare multiple groups on an ordinal variable, such as exit strategy preferences, across the identified angel group clusters. This test is chosen for its robustness against non-normal data distributions and variance heterogeneity (Hollander et al., 2015). It evaluates differences in exit strategy across clusters by comparing their median scores, effectively handling data non-normality.

Following the Kruskal-Wallis test, Dunn's test for multiple comparisons is applied to identify specific cluster pairs with significant differences in exit strategy. This test provides detailed pairwise analysis, adjusting for multiple comparisons (Dinno, 2015), allowing for a granular examination of exit strategy variations among clusters.

To further investigate the relationship between angel group clusters and exit strategy, the Chi-squared test, Cramer's V, and Kendall's Tau are employed (Greenwood & Nikulin, 1996; Acock & Stavig, 1979; Newson, 2002). These methods offer a multifaceted view of the associations, highlighting the dataset's structure and the connections underlying exit strategy preferences among different angel group clusters. The Chi-squared test evaluates the significance of the association, Cramer's V measures its strength, and Kendall's Tau assesses the ordinal association between clusters.

Correspondence analysis (Greenacre, 2010) is used to visualize the relationship between angel group and exit strategy clusters. This technique simplifies complex data into a two-dimensional graph, where the proximity of points indicates the strength of the association, providing an intuitive understanding of data patterns.

Exploratory principal factor analysis is conducted on the formalization, locus of decision making and exit strategy variables to reduce the dimensionality of the data while preserving the original variance. This technique helps create composite variables for further analysis by identifying underlying latent factors that explain the correlations among observed variables (Hair et al., 2014). The factor analysis follows the suggestions of Hair et al. (2014) to ensure robustness, including tests such as the Bartlett Test of Sphericity and the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO).

Structural Equation Modeling (SEM) is used to jointly test the research hypotheses and investigate the complex relationships between observed and latent variables of interest, such as formalization, locus of decision making, and exit strategies (Bollen, 1989; Tabachnick & Fidell, 2019). The study employs SEM with robust maximum likelihood estimation to manage non-normality in continuous data (Satorra & Bentler, 1994; Yuan & Bentler, 2000). This approach explores the relationships between key variables, aiding in identifying and analyzing patterns for further investigation while ensuring the results are statistically valid and practically applicable.

Following SEM, multiple linear regression with robust standard errors is employed to further dissect and quantify the relationships between key variables, incorporating additional control variables such as investment size, holding period, industry, deals completed and angel group involvement. This technique is well-suited for analyzing how independent variables influence dependent variables, considering the possibility of heteroscedasticity (White, 1980; Hayes & Cai, 2007). The inclusion of control variables allows for pinpointing the influence of each independent variable on key outcomes, controlling for potential confounding effects. The use of robust standard errors enhances the validity of the regression analysis by adjusting for heteroscedasticity and providing reliable estimates and significance tests for coefficients, even with data that violate normality and homoscedasticity assumptions.

Polynomial logit regression is employed to model the relationship between the categorical dependent variable (strategy cluster) and multiple independent variables. This method is particularly useful when the dependent variable has more than two categories, as is the case with the strategy clusters. By using polynomial logit regression, the impact of various factors such as angel group involvement, industry focus and holding period on the likelihood of an angel group belonging to a specific strategy cluster can be assessed. This analysis assumes no multicollinearity among the independent variables, a linear relationship between the continuous independent variables and the log odds of

the dependent variable, independence of observations and adequate sample size.

To further enrich the analysis, crisp set qualitative comparative analysis (csQCA) is employed to identify necessary and sufficient conditions that explain outcomes in the set of cases. This method is particularly useful when dealing with complex causal relationships and a medium-sized sample (Marx & Dusa, 2011), as is often the case in angel group research. By applying csQCA, the combinations of conditions (e.g. locus of decision making and formalization) that lead to specific exit strategy outcomes can be explored, allowing for a more nuanced understanding of the causal pathways and revealing patterns that might not be apparent through traditional regression analyses. csQCA assumes that the cases included in the analysis are comparable and that the conditions and outcomes are appropriately calibrated into crisp sets (binary variables).

In conclusion, the set of statistical methods employed in this research offer a holistic analysis of angel groups' structural characteristics and their influence on exit strategies. From employing Structural Equation Modeling (SEM) for relationship mapping, the study progresses to multiple linear regression with robust standard errors for deeper insights into specific predictive relationships, while incorporating control variables. K-means clustering effectively segments the data into meaningful groups, as posited by the conceptual framework, providing an essential classification for subsequent analyses. The Kruskal-Wallis test examines group differences in exit strategy, while the Dunn's test further refines this by pinpointing specific inter-group distinctions. The Chi-squared test, supplemented by Cramer's V and Kendall's Tau, establishes and quantifies the strength and nature of associations between clusters. Finally, simple correspondence analysis (CA) visually synthesizes these relationships, offering an intuitive depiction of the data's underlying structure.

The diagram below illustrates the sequential flow of analytical methods employed in the quantitative portion of this thesis. This methodological sequence was designed to systematically address the research questions and hypotheses, ensuring a comprehensive examination of the data collected. Each step in the process builds upon the insights gained from the previous analyses, contributing to a robust and multi-faceted understanding of the research topic.

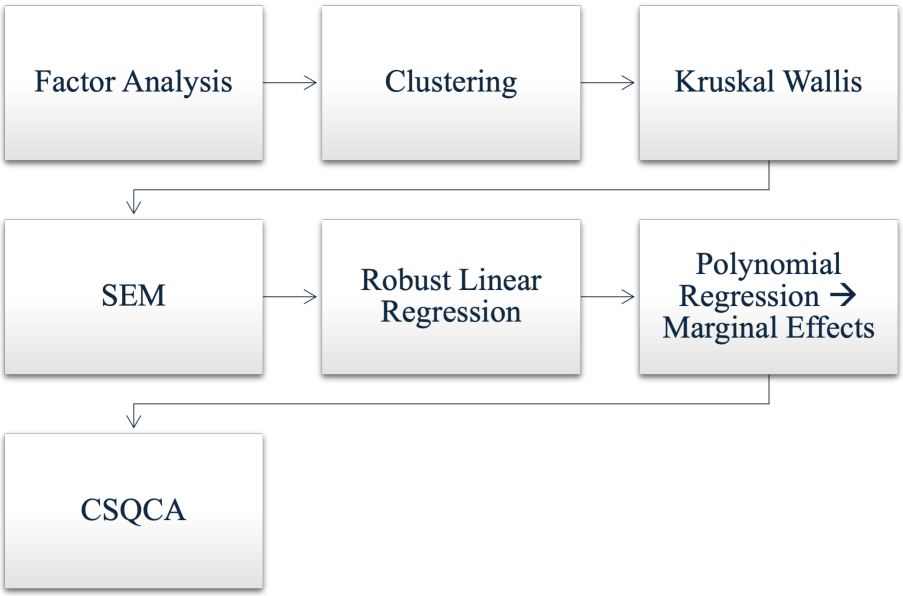


Figure 3: Quantitative Analysis Presentation Order

5.4 Angel Group Case Study with Interviews

Following the quantitative analysis in my study, which illuminated the operational dynamics and strategic orientations of angel investing groups, I transition to a qualitative phase focused on a single case study. This approach shifts from a macroscopic survey lens to a micro-level examination of a particular angel group 'A'. Chosen for its empirical richness and conceptual relevance, as guided by the cluster analysis from the quantitative part, this group represents a prototypical example to examine how exit strategies materialize in practice.

The rationale for employing a case study methodology is grounded in the objective to enrich and contextualize the findings from the survey. This approach, resonating with Siggelkow's (2007) advocacy for nuanced, in-depth exploration, enables a comprehensive analysis of the unique operational mechanisms and strategic decisions of a selected angel group. It aims to capture the tangible implementation of constructs identified in the quantitative

phase, specifically how formalization and decision-making contribute to the effective utilization of the resource base in pursuing exit strategies.

The case study serves as a strategic tool, extending the literature that emphasizes the evolution of angel investing from informal individual activities to more structured entities (Mason et al., 2019). It offers an opportunity to investigate the processes within this angel group that may constitute dynamic capabilities (Teece et al., 2007), to develop new theoretical insights tailored to the context of angel groups. The survey highlighted the significance of formalization in influencing exit strategies. This qualitative exploration seeks to unravel how formalization acts not just as a procedural element but as a strategic facilitator in identifying and capitalizing on exit opportunities. Additionally, the locus of decision-making, with its spectrum from centralized to decentralized models, is scrutinized for its influence on the group's exit strategy agility and adaptability. This case study is anticipated to provide insights into how the angel group leverages resources, like extensive networks and collective expertise, in strategizing and executing exit plans. It aims to elucidate the practical manifestations of formalization and the locus of decision-making, uncovering their roles in strategic execution.

Therefore, this qualitative inquiry is not merely an extension of the quantitative analysis but a critical component that adds depth and perspective, contributing to a comprehensive understanding of the strategic and operational dynamics within angel groups. Practical relevance is another key factor that underscores the importance of this case study. The insights gleaned from the detailed examination of angel group 'A' are not merely of academic interest but hold significant implications for practitioners in the field. For angel investors and entrepreneurs alike, the findings from this study can offer practical guidance relating to securing exits, an area we know little about (Botelho et al., 2021).

5.4.1 Source of Data

Following on from my quantitative analysis, specifically using the data from the cluster analysis, I made a decision to select an angel group from a specific cluster i.e. the first cluster. The decision to focus on a specific cluster, and then to delve into a particular group within that cluster, is a methodological choice that reflects the proponents of purposive sampling. This sampling technique involves selecting information-rich cases that offer in-depth insights into an issue of interest (Patton, 2002). In this context, the first cluster, marked by its balanced approach to formalization and distributed decision-making, presents itself as an information-rich cluster that could provide valuable insights into

contemporary trends in angel investing. In contrast, the other clusters, specifically the second and fourth, tend to mirror entities that have been extensively covered in existing research, such as venture capital funds, private equity funds or informal business angel networks (referenced in studies by Becker & Hellmann, 2003; Kelley & Hay, 2002; Bonini & Capizzi, 2018, among others). While these clusters contribute to our overall understanding, their theoretical novelty is comparatively limited. Therefore, focusing on the first cluster offers a distinctive opportunity to contribute fresh perspectives to the field. The selection of the first cluster aligns with the notion that it represents a pivotal shift in angel investing practices, as it combines elements of formality with the flexibility inherent in angel investing. This blend of characteristics is expected to shed light on the nuanced operational and strategic dynamics, especially in relation to exit strategies, thus enriching the findings from the quantitative analysis. Moreover, the focus on a specific cluster and a group within it aligns with the methodological approach outlined by Siggelkow (2007), who emphasizes the importance of using single-case studies to generate deeper insights into complex phenomena. Consequently, the study adopts a focused approach that allows for a detailed examination of the practices, strategies and decision-making processes within the realm of angel investing.

In the survey phase, respondents had the option to provide contact information for potential interviews, leading to five angel groups from the first cluster expressing interest. This initial selection was strategically enriched by a criterion focusing on angel groups with an investment size greater than 10 million SEK at the deal level and at least five investments in the past three years at the portfolio level. This criterion was not arbitrary; it was grounded in the objective of identifying an angel group at a critical 'transitory' phase. This phase, as discussed by Mason et al. (2019) and Ibrahim (2008), represents a pivotal shift from the traditional informality of business angel investors to a structure resembling venture capital funds. Four out of the five angel groups met these criteria, and preliminary interviews were conducted with representatives from three of these groups to assess suitability and possible level of access to data. These interviews served as a crucial exploratory step, enabling an in-depth understanding of each group's characteristics and practices. This iterative process, allowed for a selection of a specific angel group that not only represented the transitory phase but also demonstrated characteristics and practices that would contribute to understanding the utilization of resources and dynamic capabilities within angel investing. The angel group selected for the case study was marked by several distinctive

characteristics, making it an acceptable representation of the first cluster's nature:

1. The group consists of six members, each bringing unique expertise to the table, thereby signaling a reliance on collective wisdom in decision-making processes. This was an indication of the group possessing diverse resources, in addition to financial capital, due to the differing backgrounds of the members.
2. A diversified investment portfolio across various industries. This was an indicator of non-specialization with regards to sector of investment, and the investment portfolio's nature representing the diversity of the group's members.
3. All members are actively involved in capital investment and management, indicative of a collaborative approach to managing investments.
4. The group operates under a structured framework, evidenced by formal governance documents. This approach, combined with the active involvement of all members (point 3), provides an opportunity to explore how formalization and locus of decision-making manifest in practice. Therefore, this setting offers a relevant context to extend the quantitative findings, particularly in understanding how these operational aspects contribute to utilizing the group's resource base and navigating the volatile market of angel investing.

Expanding on the experiences of the members, each has a distinct professional background, contributing to the diversity of expertise within the group:

1. Member 1, a business developer, brings a strategic perspective on business growth and development.
2. Member 2, with experience as a CEO (Chief Executive Officer), offers leadership insights and a comprehensive understanding of organizational management.
3. Member 3 specializes in management assessment, providing a nuanced approach to evaluating managerial effectiveness.
4. Member 4, originally an engineer and now a business developer, combines technical expertise with business acumen.
5. Member 5, who has experience as a CFO (Chief Financial Officer), contributes financial expertise and strategic financial planning skills.

6. Member 6, also with a background in finance as a CFO, adds depth to the group's financial decision-making and risk assessment capabilities.

These diverse backgrounds suggest minimal overlap in expertise among the members, indicating a reliance on collective wisdom and varied perspectives in decision-making. This aspect is further validated by their diversified investment portfolio across various industries. These features position the group as a representation through which broader transitions within the first cluster can be explored, offering valuable strategic insights applicable to both the specific cluster 1 and adjacent ones from my results, where clusters 2 and 4 represent the two extremes within this transition.

The methodological rigour of the study was enhanced by the access granted by the group. Each member was willing to provide in-depth interviews and discuss critical events leading to IPOs and successful exits, supplemented by referring to relevant documents during the interviews for triangulation, thereby enhancing the accuracy and reliability of the findings. The angel group members were treated as "knowledgeable agents" (Gioia et al., 2012) that knew what they were trying to do, and could explain their thoughts, intentions and actions. This treatment's role is to give an adequate account of the interviewee's experience and represent their voices prominently in the reporting of the research.

In conclusion, the selection process for the qualitative case study was designed to align with theoretical sampling methodologies. This approach not only ensured methodological robustness, but also facilitated a comprehensive exploration of the dynamics of angel investing.

5.4.2 Data Collection

During the data collection phase of my study, I employed semi-structured interviews as the primary method to gather in-depth insights from members of the selected angel group. Conducted over the period from June 2022 to July 2023, these interviews were held using both in-person meetings and virtual platforms such as Zoom and Teams, thus ensuring flexibility and accessibility for all participants. The semi-structured nature of these interviews was a deliberate choice, designed to strike a balance between maintaining consistency in the line of questioning across different participants and allowing the flexibility to delve into emerging themes and individual perspectives. This approach was instrumental in fostering a conversational atmosphere where participants could comfortably share their experiences and insights. This

resulted in a total of 11 interviews, totaling 700 minutes of audio-recorded data and 25 additional pages of documentation, that included portfolio company data, and angel group related documents. The role of the documentation was to corroborate the evidence from interviews, contextualize insights from the interviews, and create follow up questions.

Table 2: Angel Group Member Outline

Participant	Interviews	Length (Total time)
Member A1: A business developer brings a strategic perspective on business growth and development. Setup 7 investment funds, and chaired the largest incubator and start-up house in South Sweden	4	270 minutes
Member A2: experience as a CEO, offers leadership insights and a comprehensive understanding of organizational management.	2	100 minutes
Member A3: specializes in management assessment, providing a nuanced approach to evaluating managerial effectiveness.	2	120 minutes
Member A4: originally an engineer and now a business developer, combines technical expertise with business acumen.	1	90 minutes
Member A5: experience as a CFO, contributes financial expertise and strategic financial planning skills.	1	90 minutes
Member A6: background in finance as a CFO, adds depth to the group's financial decision-making and risk assessment capabilities.	1	45 minutes

Integration of Quantitative Insights and Pilot Interviews in Building Interview Guide

The development of the interview guide was grounded in the findings from the quantitative phase of the study and insights gleaned from preliminary pilot interviews. The quantitative results provided a foundational understanding of formalization, decision-making and exit strategies within angel groups, which informed the key areas of inquiry for the interviews. These areas included operational structures, decision-making processes and exit strategies for the investments. The pilot interviews, on the other hand, offered preliminary insights into the real-world application of these concepts within angel groups, revealing nuances and complexities that required deeper exploration. The pilot study encompassed five interviews in total: three with members from distinct angel groups, two with stakeholders responsible for managing angel groups and networks (conducted via Zoom). These interviewees were sourced from

the university's network, which includes a vibrant startup ecosystem. They were instrumental in revealing the nuanced complexities and real-world dynamics of angel investing practices, thereby enhancing the depth of the study. The conversations aimed to understand how the investments were staged, and how the investment process was divided in practice, for example, deal screening and due diligence stages up to exit planning and follow-on financing. The relevance of exit strategy throughout this process, in tandem with other crucial processes, was inquired about as well. These conversations were built on academic understanding of investment process (Klonowski, 2007; Paul et al., 2007; Maxwell, 2016; among others), providing a practical check of relevance. Importantly, these pilot interviews shifted the focus from a stage-based view of investment to a more dynamic perspective, emphasizing critical events crucial for shaping exit strategies.

In constructing the interview guide, I integrated themes and patterns identified in the quantitative phase with exploratory findings from the pilot interviews, as presented in appendix E. This approach ensured that the guide was not only theoretically informed but also grounded in the practical realities of angel investing. The guide was designed to elicit detailed information about the group's investment strategies, decision-making dynamics and approaches to exits. This was followed up in a manner that allowed for a deeper understanding of how formalization and decision-making processes are practically manifested in the operations of angel groups. An important aspect of this process was focusing on critical events in the journey of the angel group, particularly those leading to significant progress towards and the achievement of exits.

Identification of Critical Events

Identifying these critical events entailed a multi-step, iterative approach, which combined primary discussions with secondary data analysis. Initial discussions with Member A1, the chairperson of the board, provided a foundational perspective on the group's trajectory and key milestones. These conversations were instrumental in setting the stage for identifying potential critical events in the group’s history. Accompanying these discussions were documents referred to by A1, aiding in the accurate and relevant corroboration of these critical events.

The use of critical events aimed to emphasize understanding experiences through the narratives people share. By inquiring about critical events, particularly those related to exit strategies, participants were invited to share specific, detailed accounts (Clandinin & Connelly, 2004). This approach

facilitated the capturing of the complexities and subtleties of their experiences, yielding a richer and more nuanced understanding and serving as reference points in the interviews. Furthermore, it involved detailing the context of events or actions to interpret their meaning more accurately. When respondents recount critical events related to exit strategies, they provide not just a description of the events themselves but also the surrounding context, thoughts and considerations. This depth of information is invaluable for qualitative analysis, offering a comprehensive understanding of the phenomena under study.

Table 3: Critical Events Description

IPO of MedTech company on First North	The IPO of the MedTech company on First North was selected as a critical incident due to its significance in demonstrating the angel group's ability to navigate the complexities of public listings and capitalize on the expanding MedTech sector. This event showcases the strategic decisions and operational dynamics involved in transitioning a portfolio company to a public entity.
IPO and pre-IPO rounds with raising co-investment of SaaS company on Spotlight Exchange	The IPO and pre-IPO rounds with raising co-investment of a SaaS company on Spotlight Stock Exchange were chosen to highlight how the angel group secured additional funding and engaged with stakeholders. The pre-IPO rounds were chosen to highlight how the angel group utilized their knowledge and network, while dealing with cost of capital and risk.
Due diligence and exit discussions of DeepTech company investment	This incident illustrates the angel group's strategic acumen in navigating the complexities of a highly technical sector. This selection underscores their collective expertise in assessing risk, orchestrating valuation and strategizing follow-on investments, revealing the nuanced application of their resources. Additionally, it demonstrates the group's agility in refining exit strategies in a volatile environment.
Insider trading incident and aftermath	A portfolio company that the angel group was invested in suffered insider trading allegations. The angel group was represented on the board of this company. This incident brought into focus ethical dilemmas, governance, risk management in place. It also considers the aftermath of this incident, and the changes brought by it to the group itself.

Fallout with two members	The fallout with two members was selected to examine the internal dynamics and conflict resolution strategies within the angel group, highlighting the importance of cohesion and alignment in achieving collective goals. It also highlighted the difficulties of cultural replication.

Interviews with Group Members

With a clearer understanding of the critical events, I then approached other members of the angel group, tailoring my discussions based on their involvement and expertise related to these events. The interviews were designed to delve deep into these identified moments, exploring each member's perspectives, contributions to and reflections on the group's decisions and actions.

Additionally, I maintained flexibility in the interview process, allowing members to discuss other events they considered crucial in the context of the group's journey towards exits. This openness not only enriched the data collected, but also provided a more holistic view of the group's strategies and decision-making processes.

The semi-structured nature of the interviews allowed me to probe deeper into specific areas of interest, ask follow-up questions and encourage participants to share their experiences and perspectives in detail. This approach facilitated rich, in-depth data collection, providing valuable insights into the strategic and operational nuances of the angel group.

5.4.3 Data Analysis

The data analysis for this qualitative study adhered to a systematic methodology consistent with established qualitative research practices, specifically aligning with the framework proposed by Yin (2011). This approach entailed an iterative process of coding and thematic development.

Coding and Analysis of Interviews

The first step was to transcribe the empirically captured data into a Word document and NVivo. At this point, reading through the empirical data, making notes and assigning initial codes and categories was important for understanding the background of the angel group, as well as the members involved and the activities they recollected (Ryan & Bernard, 2003). As such,

this step in the analysis process provided a thorough description of the experiences observed (Wynn & Williams, 2012).

In the analysis of the interviews, the first cycle of coding was explorative in nature, staying closely aligned with the data, retaining the descriptive language used by the angel group members in the interviews. This formed a strong, representative foundation on which I could build further data analyses. This phase resulted in the generation of over 300 initial codes, each a fragment of the larger narrative that began to unfold from the interviews.

Moving into the second cycle, the focus shifted to sorting these codes, and reducing the complexity to a more digestible form, necessitating a balance between empirical richness and analytical clarity. Inspired by the axial coding approach (Strauss & Corbin, 1998; Boeije, 2010), this phase entailed a strategic reorganization of the data. Dominant codes were identified, synonyms were consolidated and redundant codes were removed. The goal was to distill the codes into categories that offered the most significant insights into the operational and strategic nuances of angel investing.

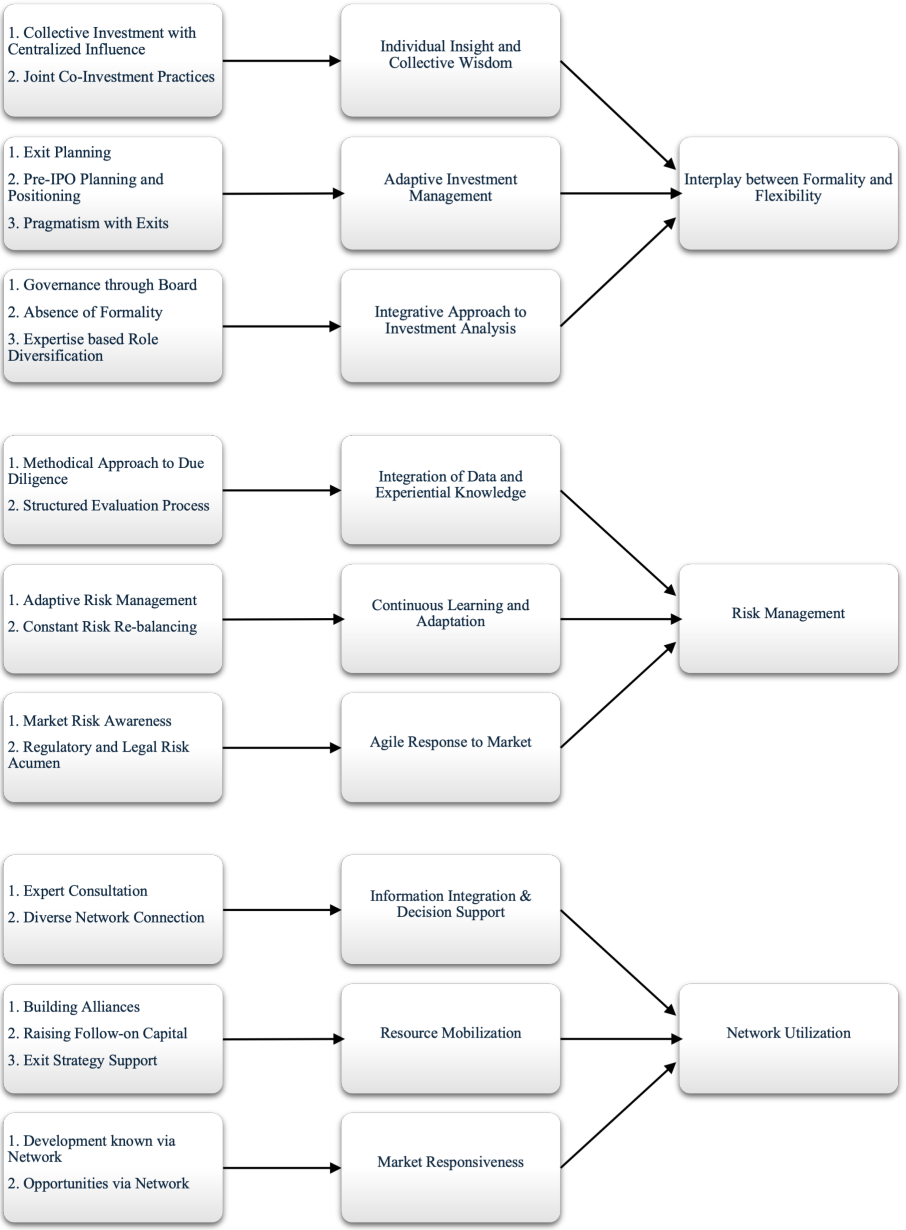
Each of these refined codes was then aligned with specific stages of the investment process and functional categories, as informed by the critical events identified during the interviews. This categorization was pivotal in mapping the empirical data to the angel group's functional activities, particularly those related to investment stages like due diligence, IPO listings and exit implementation. The critical events served as narrative anchors, providing a structured yet rich context.

I further categorized the 29 distilled codes into 12 overarching groups, each representing a distinct aspect of the angel group's investment process or theoretical concept. This grouping was a blend of empirical data and theoretical underpinnings, drawing upon concepts from the Resource-Based View (RBV) and Dynamic Capabilities View (DCV). During this phase, literature that was not initially part of my a priori approach and quantitative results, such as works by Nahapiet and Ghoshal (1989) and Rousseau et al. (1998) among others, were incorporated to enrich and contextualize the emerging themes. The categorization was guided by a blend of theoretical and empirical interests, focusing on how resources and capabilities were utilized and reconfigured within the angel group. It involved a recursive dialogue between theory and data, ensuring that the axial categories were not just empirically grounded but also conceptually robust. The process of transitioning from initial codes to axial categories represented a critical step in the analytical narrative, where the descriptive richness of the data began to

interface with the explanatory power of theoretical constructs. Each axial category distilled from the 29 codes encapsulated a strategic process or capability that was central to the angel group's investment activities. This was more than a mere reclassification of data, it was an in-depth exploration of the dynamics and complexities of angel investing as experienced by the group.

The transformation from these categories to theoretical themes in this study represented an analytical shift. Initially, these categorizations were re-evaluated and merged with theoretical insights to capture the core of the angel group's dynamic capabilities. This analytical stage utilized abductive reasoning to forge links between empirical observations and theoretical frameworks. The creation of the four overarching themes was iterative, encompassing a reflective synthesis process. This involved examining axial categories to uncover the strategic foundations of the group's operations. For instance, the theme 'Relational Dynamics' emerged from analyzing categories related to trust, social capital and cultural engagement, indicating the significance of relational interplay in the group's investment strategy. This synthesis involved balancing empirical data and theoretical concepts to develop a comprehensive narrative about the group's ability to utilize and adapt resources in a volatile market in the context of pursuing exit strategies. Each theme corresponded to a dynamic capability demonstrated by the angel group. For example, 'Relational Dynamics' was interpreted not just as trust and engagement within the group, but also as a factor influencing investment strategy adaptation. Similarly, 'Network Utilization' was seen as the strategic application of social capital for accessing market information and mobilizing resources.

Continuing the data-theory iteration process outlined earlier, there was a continuous evaluation of emerging themes against both the empirical data and the theoretical frameworks of the Resource-Based View (RBV) and Dynamic Capabilities View (DCV). This iterative process ensured that the identified categories not only effectively captured the constructs of interest as per the RBV and DCV but were also substantiated by the data. The validation of these themes was a critical step. It involved a process of constant comparison, where the integration of axial categories within the themes was examined. This comparison also extended to how these themes stood up when contrasted with new data or existing literature. A key goal in this phase was to achieve theoretical saturation, ensuring that no additional data was found that could develop new properties of the categories or themes. This indicated that the analysis was comprehensive and captured underlying data effectively. A data structure was developed to visually represent the evolution of codes providing a clear and concise map of the analytical journey, presented below.


1. Collective Investment with Centralized Influence
2. Joint Co-Investment Practices
Individual Insight and Collective Wisdom
1. Exit Planning
2. Pre-IPO Planning and Positioning
3. Pragmatism with Exits
Adaptive Investment Management
1. Governance through Board
2. Absence of Formality
3. Expertise based Role Diversification
Integrative Approach to Investment Analysis
Interplay between Formality and Flexibility
1. Methodical Approach to Due Diligence
2. Structured Evaluation Process
Integration of Data and Experiential Knowledge
1. Adaptive Risk Management
2. Constant Risk Re-balancing
Continuous Learning and Adaptation
1. Market Risk Awareness
2. Regulatory and Legal Risk Acumen
Agile Response to Market
Risk Management
1. Expert Consultation
2. Diverse Network Connection
Information Integration & Decision Support
1. Building Alliances
2. Raising Follow-on Capital
3. Exit Strategy Support
Resource Mobilization
1. Development known via Network
2. Opportunities via Network
Market Responsiveness
Network Utilization

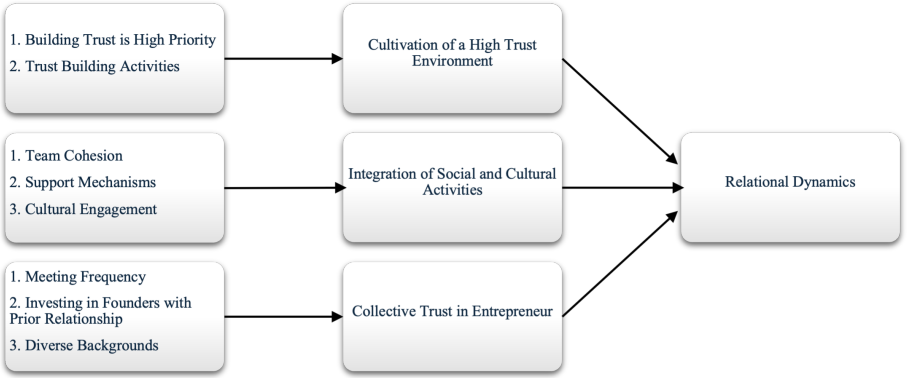


Figure 4: Data Structure

5.5 Research Ethics

The present study deals with data of a sensitive nature that encompasses information about angel groups, their investment procedures and portfolio companies, thereby invoking ethical considerations. The primary challenge in this context is to ensure secure access to angel groups. To this end, explicit consent must be obtained from all participants, who must also be provided with a clear understanding of the nature and extent of their involvement in the research. A summary of the research topic, interview duration, information requirements and expected participation is presented to each participant as part of the consent process.

At the current stage of the research, verbal consent has been obtained from all participants, with the option of providing written or e-mailed consent. Participants are also informed that they retain the right to withdraw their consent at any point in time, for any reason. It is further emphasized that the data is the property of the participants and not the researchers.

In the event of multiple rounds of interviews, the consent process is reiterated and participants are reminded of their options. Confidentiality is also a critical aspect of this study. Participants are assured that their information will be kept confidential, and measures such as nondisclosure of information, obfuscation of individual and organizational names and secure storage of data during and after the research will be taken to ensure their privacy. It is also clarified that

the research results will not be used to identify participants directly or indirectly.

6. Categorization of Business Angel Groups

6.1 Descriptive Statistics

The descriptive statistics of the respondents are presented in the tables below. The first of these describes the characteristics of the angel group members that have responded to the survey. Table 4 is an overview that describes investor backgrounds. The age distribution of the sample skews towards older individuals, with 62.5% falling within the 45 to 54 years age bracket. This is in line with the suggestions of past research (Morrisette, 2007; Ramadani, 2012; Botelho et al., 2023), implying that angel investing is an activity that gains traction later in one's career, possibly after accumulating sufficient capital and expertise.

63.75% of the sample holds a master's degree, underscoring the advanced educational attainment prevalent in the angel investing landscape. This could be related to the Swedish environment, where Master's education is free for Swedish and European Union nationals and the government funds tuition for higher education students up to approximately the age of forty-five (Svanfeldt, 1994; Stenberg, 2012). Past studies have found that angel investors possess either advanced degrees or have accumulated significant professional experience (Ramadani, 2009) that plays a crucial role in the due diligence process and in the ongoing mentoring of portfolio companies (Hoyos-Iruarrizaga et al., 2017).

The sample composition, predominantly consisting of investors (38.75%) and executives (31.25%), implies a high level of financial and strategic expertise within these angel groups. Additionally, the presence of professionals such as lawyers and doctors (13.12%) introduces a layer of domain-specific expertise. Interestingly, only 38.75% of respondents identify as full-time investors. This sort of role dispersion aligns well with Mason et al.'s (2019) suggestion about

heterogeneity within angel group structures, with many employing fluid, modular structures dependent on the situation.

The technology sector emerges as a prominent focus in the study, with 33.8% of angel investors having experience in this area and 25% targeting it for investment. This trend mirrors the global emphasis on technology as a key driver of economic growth and innovation. Finance and healthcare sectors also feature significantly in the sample, aligning with Sweden's notable healthcare start-ups and fintech developments (Teigland et al., 2018).

The prominence of these sectors suggests a strategic orientation of angel investors towards areas with high growth potential and disruptive capacity. This pattern of investment could be seen as reflective of 'geographical imprinting', where regional industry strengths and opportunities significantly shape investment decisions (Marquis & Tilcsik, 2013). It indicates that while angel investors are influenced by global trends, their choices also resonate with the local competitive advantages and sectoral strengths prevalent in the Swedish market.

The moderate level of deal activity (43.75% completing 1-5 deals in three years) may indicate a balanced approach to risk management, allowing for portfolio diversification without overextension (Polbennikov et al., 2010). This measured activity could also be influenced by the part-time commitment of many angel investors (61.25%), who may find it challenging to manage a higher volume of deals alongside other responsibilities.

The data shows that most investments involved 6 to 10 members (51.25%), suggesting a preference for collective decision-making and risk distribution amongst the angel investors.

The anticipated holding period of 5 to 7 years for 65.00% of respondents aligns with the mid-term investment horizons typically associated with angel investing (Mason & Harrison, 1996). This duration may be influenced by various factors, including the mentorship and value-adding activities of angel investors, the concept of 'patient capital' (Klingler-Vidra, 2016), and the complexities associated with achieving profitable exits (Cumming, 2008). The holding period could also be related to the predominant industries in the sample's investment portfolios, as different sectors have varying 'time-to-exit' expectations (Hall & Lerner, 2010).

The industry focus is diversified but leans significantly towards healthcare (30.00%), potentially reflecting the industry's high growth prospects and the specialized expertise within the angel groups. One plausible reason aligns with

the growing healthcare startup ecosystem in Sweden, where institutional support mechanisms, such as favourable regulatory conditions and public-private partnerships, are abundant (Balawi & Ayoub, 2022). Another reason could be that the focus on healthcare reflects the composition of the angel groups themselves, particularly in terms of the collective expertise they hold. The data shows a substantial percentage of professionals such as doctors and healthcare executives among the respondents. This could steer the group's investment focus towards healthcare ventures, where their domain-specific knowledge can be most effectively applied (Mitteness, Baucus & Sudek, 2012). Moreover, the focus on healthcare could also be seen as a risk mitigation strategy. Healthcare investments, particularly in biotechnology or medical devices, often have longer development cycles but can offer more predictable and stable returns once they reach the market, thereby balancing the portfolio's risk profile (Tresl et al., 2014; Atz et al., 2023).

Table 4: Sample Characteristics

Description		N	Percentage	Cumulative %
Age	18 to 24 years	0	0	0
	25 to 34 years	1	0.62	0.62
	35 to 44 years	33	20.62	21.25
	45 to 54 years	100	62.50	83.75
	55 to 64 years	26	16.25	100
	65 or older	0	0	100
Highest Education	High School	2	1.25	1.25
	University Bachelor's degree	30	18.75	20.00
	University Master's degree	102	63.75	83.75
	University PhD or higher	5	3.12	86.88
	Other (e.g. vocational/professional qualification)	20	12.50	99.38
	Prefer not to answer	1	0.62	100
Current Occupation	Entrepreneur	14	8.75	8.75
	Executive & Management	50	31.25	40.00
	Professional (e.g. lawyer, doctor etc.)	21	13.12	53.12
	Investor	62	38.75	91.88
	Other	13	8.12	100
Industry experience	Technology	69	33.8	33.80
	Finance	34	16.6	50.4
	Healthcare	37	18.14	68.54

	Consumer goods	24	11.76	80.3
	Energy	8	3.92	84.22
	Other	32	15.68*	100
Focussed Industries	Technology	49	25	25
	Finance	22	11.22	36.22
	Healthcare	37	18.87	55.09
	Consumer goods	12	6.12	61.19
	Energy	6	3.06	64.25
	Other	7	3.57	67.82
	None	63	32.14	100
Deals completed in past 3 years	None	36	22.50	22.50
	1-5	70	43.75	66.25
	6-10	33	20.62	86.88
	10-20	18	11.25	98.12
	21 and above	3	1.88	100
Investment Size (in SEK)	Less than 150,000	0	0	0
	150,000 to 299,999	2	1.25	1.25
	300,000 to 749,999	16	10.00	11.25
	750,000 to 1,499,999	40	25.00	36.25
	1,500,000 to 2,999,999	46	28.75	65.00
	3,000,000 to 7,499,999	34	21.25	86.25
	7,500,000 and above	22	13.75	100
Number of angels invested in company	Less than 3 members	13	8.12	8.12
	3 to 5 members	44	27.50	35.62
	6 to 10 members	82	51.25	86.88
	11 to 15 members	10	6.25	93.12
	16 to 20 members	5	3.12	96.25
	More than 20 members	6	3.75	100
Expected holding period of investment	Less than 2 years	0	0	0
	2 to 4 years	23	14.38	14.38
	5 to 7 years	104	65.00	79.38
	8 to 10 years	29	18.12	97.50
	More than 10 years	4	2.50	100
Industry investment belongs to	Technology	42	26.25	26.25
	Finance	25	15.62	41.88
	Healthcare	48	30.00	71.88
	Consumer goods	23	14.38	86.25
	Energy	4	2.50	88.75
	Other	18	11.25	100

Table 5 presents data on the formalization practices related to member roles and responsibilities within the angel groups, as measured through Likert scales. The data reveals notable variability. The alignment of roles with skills, experience and interests receives the highest average score of 4.69, indicating a strong consensus on the importance of skill-fit in angel investing. Conversely, formal induction programs and training provisions have significantly lower average scores of 2.47 and 3.08, respectively. The standard deviations across variables range from 1.51 to 2.24, suggesting substantial divergence in practices and perceptions within the sample. This variability could be attributed to the underlying heterogeneity within angel groups. These findings underscore the unique operational dynamics of each angel group.

Table 5: Survey Question 1

Please rate the following statements regarding the practices and support mechanisms related to member roles and responsibilities. 1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Neither Agree nor Disagree, 5 = Somewhat Agree, 6 = Agree, and 7 = Strongly Agree				
	Variable	Average	Median	Std. Deviation
The group has a formal induction program for new members	Form_Induction	2.47	2	1.66
The angel group provides training and resources to ensure that members feel confident in their roles and responsibilities	Form_Training	3.08	2	2.01
Regular mentoring is conducted to ensure members receive continuous support and guidance in their roles	Form_Mentoring	3.35	3	1.94
Member roles and responsibilities for this investment are clearly written and defined	Form_Roles	3.47	2	2.24
Member roles and responsibilities are matched according to their skills, experience and interests	Form_SkillMatch	4.69	5	1.51

Table 6 presents the practices related to deal-origination, screening and due diligence in angel groups. The data reveals notable contrasts. The concentration of member involvement in the screening process has the highest average score (4.78) and median (6), suggesting that deal-screening is conducted by select members, which is consistent with the literature (Mason et al., 2019). However, the screening process itself appears less formalized (average score 3.49). The high standard deviations (2.31 and 2.32) indicate a wide spread of opinions, reflecting heterogeneity in angel groups. Participation increases in negotiation, valuation and deal-structuring (average 4.45, median 5.5), suggesting decision-making is not solely concentrated. The diversity in practices and perceptions implies distinct operational philosophies among angel groups.

Table 6: Survey Question 2

Please rate the following statements relating to deal-origination, screening and due diligence process about this investment 1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Neither Agree nor Disagree, 5 = Somewhat Agree, 6 = Agree, and 7 = Strongly Agree				
	Variable	**Average**	**Median**	**Std. Deviation**
The screening process involved a thorough evaluation of the investment opportunity by designated groups or individuals	LOC_Screening	4.78	6	2.32
The group has a formal process for identifying and sourcing potential investment opportunities	Form_Screening	3.49	3	2.31
All the members that invested actively participated in the deal-structuring and negotiation process (reverse Likert scale)	LOC_DealStructure_R	4.45	5.5	1.89

Table 7 examines the decision-making process related to investments, revealing an interplay between formal structures and individual autonomy. The variable 'Members had the individual freedom to make their own decision to invest in the company' (LOC_InvDecision_R) has an average score of 3.92 and a median of 5, illustrating significant personal autonomy in investment decisions, reflecting a balance between collective decision-making and personal discretion. The variable 'Members have the flexibility to select the role they would like to assume post-investment' (Form_RoleSelection_R) scores an average of 4.04 and a median of 5, indicating formalization in role assignment post-investment. However, the 'Decision-making procedures relating to the investment are clearly formulated and written' (Form_WrittenDecision) variable has a lower average score (3.26), suggesting inconsistent implementation of structured, documented decision-making procedures, implying reliance on implicit social norms and interpersonal trust. The standard deviations (2.11 to 2.24) reflect the diversity of practices and approaches amongst angel groups.

Table 7: Survey Question 3

Please rate the following statements relating to the decision-making process undergone for this investment 1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Neither Agree nor Disagree, 5 = Somewhat Agree, 6 = Agree, and 7 = Strongly Agree				
	Variable	**Average**	**Median**	**Std. Deviation**
Members had the individual freedom to make their own decision to invest in the company	LOC_InvDecision_R	3.92	5	2.24
Members have the flexibility to select the role they would like to assume post-investment	Form_RoleSelection_R	4.04	5	2.24
Decision-making procedures relating to the investment are clearly formulated and written	Form_WrittenDecision	3.26	2	2.11

The data concerning post-investment decision-making processes in angel groups reveals the influence of expertise and the extent of formalization in managing investments. The variable 'Members with specific expertise or industry knowledge had a greater influence on the decision-making process for this investment' (LOC_Knowledge_Influence) has a high average (5.66) and median (6), underscoring the significant role of specialized expertise in decision-making (Shepherd & Zacharakis, 2003; Becker-Blease, 2015).

However, the degree of formalization in post-investment activities varies. The variables 'Workloads of members are adjusted through the lifecycle of the investment' (Form_WorkAdjustment_R) and 'Post-investment monitoring and performance appraisals are based on written standards/parameters' (Form_Appraisal) have lower averages (2.58 and 3.08), suggesting limited formalization in workload adjustments and performance appraisals, implying a preference for flexibility and adaptability. The variable 'Members who invested had the opportunity to participate in and contribute to strategic decision-making during the post-investment stage' (LOC_DecisionOpportunity_R) has a median of 5, indicating a relatively inclusive approach to strategic decision-making. Conversely, the variable 'A member who makes decisions about the investment without consulting the group first would be discouraged' (LOC_Decision_Discouragement) shows an average of 4.5, emphasizing the importance of collective decision-making

processes

Table 8: Survey Question 4

Please rate the following statements relating to the post-investment decision-making process undergone about a specific investment in your angel group 1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Neither Agree nor Disagree, 5 = Somewhat Agree, 6 = Agree, and 7 = Strongly Agree				
	Variable	Average	Median	Std. Deviation
Members who invested had the opportunity to participate in and contribute to strategic decision-making during the post-investment stage	LOC_DecisionOpportunity_R	3.49	5	1.96
A member who makes decisions about the investment without	LOC_Decision_Discouragement	4.50	6	2.20

consulting the group first would be discouraged				
Members with specific expertise or industry knowledge had a greater influence on the decision-making process for this investment	LOC_Knowledge_Influence	5.66	6	1.27
Work-loads of members are adjusted through the lifecycle of the investment	Form_WorkAdjustment_R	2.58	2	1.59
Post-investment monitoring and performance appraisals are based on written standards/parameters	Form_Appraisal	3.08	2	2.02

The data on recognition and documentation practices within angel groups reveals moderate levels of formalization. The variables 'Form_Recognition' and 'Form_Document_Format' have moderate averages (3.21 and 3.17), indicating a middling level of formalization in recognition and standardized documentation format, diverging from venture capital and private equity practices (Hellman & Puri, 2002; Hult et al., 2018). In contrast, 'LOC_Documenting' has a higher average (4.66) and median (6). The high standard deviations, especially in 'Form_Document_Format' (2.25) and 'LOC_Documenting' (2.12), reflect the variability in responses, attributed to the heterogeneity within angel groups, including factors such as investment focus, member experience or regional influences (Mason & Harrison, 2016).

Table 9: Survey Question 5

Please rate the following statements relating to recognition and documentation practices in your angel group 1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Neither Agree nor Disagree, 5 = Somewhat Agree, 6 = Agree, and 7 = Strongly Agree				
	Variable	**Average**	**Median**	**Std. Deviation**
There is recognition for outstanding work by individual members towards the investment	Form_Recognition	3.21	2	1.77

The group has a standard format for documenting investment analyses and recommendations	Form_Document_Format	3.17	2	2.25
The process of creating and maintaining investment-related documentation is centralized and managed by a few key individuals	LOC_Documenting	4.66	6	2.12

The data on the exit process reveals insights into exit strategy and implementation within angel groups. The variables 'VAR10_1StrategyFormation' and 'VAR10_2StrategyFormation' have average scores of 4.47 and 4.02, suggesting a moderate level of formal strategic planning with room for flexibility. The average score of 3.86 for 'VAR10_6StrategyFormationREV' further underscores the adaptability of the exit strategy decision-making process. The standard deviations (1.89 to 2.00) point to diverse approaches within the sample, attributed to varying investment philosophies, risk tolerances or unique circumstances of individual investments. The findings suggest that angel groups strike a balance between rigid planning and spontaneity, adopting a middle-ground approach that integrates planned and emergent strategies in their exit processes. This approach allows for foresight in establishing initial objectives while retaining flexibility to adjust strategies in response to evolving market conditions and investment performance.

Table 10: Survey Question 7

Please rate the following statements relating to the exit process undergone about a specific investment in your angel group 1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Neither Agree nor Disagree, 5 = Somewhat Agree, 6 = Agree, and 7 = Strongly Agree				
	Variable	Average	Median	Std. Deviation
At the time of investment, there was a clear plan that outlined the objectives for the investment, including specific timelines and performance metrics	VAR10_1 StrategyFormation	4.47	5	1.95
A comprehensive exit plan (including time-frame, exit route, valuation target, network connections and budgets) was established at the time of investment	VAR10_2 StrategyFormation	4.02	4	1.89
The 'possibility of exit' played a major role in making the investment decision	VAR10_3 StrategyFormation	4.26	5	1.98
The exit strategy was designed to achieve specific objectives (e.g. high return on investment, strategic exit, synergies, etc.)	VAR10_4 StrategyFormation	4.04	4	2.00
The exit strategy decision-making process remains adaptable to changing circumstances	VAR10_6 StrategyFormationREV	3.86	4	1.89
The pursued exit strategy significantly differs from the original plan	VAR10_7 StrategyFormationREV	4.03	5	1.91

6.2 Factor Analysis

6.2.1 Formalization

An exploratory principal factor analysis was first conducted on the formalization variables. The choice of PFA is premised on the goal of reducing the dimensionality of the data while preserving as much of the original variance as possible. A total of 10 observed variables were included in the analysis, and the method was set to retain only one factor, which aligns with the study's intent to create a single composite variable. Following the suggestions of Hair et al. (2014, p.100), different tests were performed to ensure that the factor analysis was robust in quality. The Bartlett Test of Sphericity validated the factorability of the correlation matrix ($p < 0.001$, $\chi^2 = 2345.107$, $df = 45$). The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) was 0.921, exceeding the recommended value of 0.7 (Hutcheson & Sofroniou, 1999). Variables 'Form_SkillMatch' and 'Form_RoleSelection' were removed due to low communality (< 0.5) (Hair et al., 2014).

Factor analysis revealed one factor with an eigenvalue of 7.87, explaining 93.4% of the total variance. This was substantially higher than the second factor's eigenvalue (0.39), supporting the retention of a single factor. The near-zero determinant of the correlation matrix further supported the existence of a common factor, named "Formalization".

Table 11: Formalization - Factor Analysis

	Factor Loadings	**Uniqueness**
Form_Induction: The group has a formal induction program for new members	0.83	0.31
Form_Training: The angel group provides training and resources to ensure that new members feel confident in their roles and responsibilities	0.91	0.16
Form_mentoring: Regular mentoring is conducted to ensure new members receive continuous support and guidance in their roles	0.87	0.23
Form_Roles: Member roles and responsibilities for this investment are clearly written and defined	0.93	0.12

Form_Screening: The group has a formal process for identifying and sourcing potential investment opportunities	0.94	0.10
Form_Written: Decision-making procedures relating to the investment are clearly formulated and written	0.93	0.12
Form_Work: Work-loads of members are adjusted through the lifecycle of the investment	0.86	0.24
Form_Appraisal: Post-investment monitoring and performance appraisals are based on written standards/parameters	0.94	0.10
Form_Recognition: There is formal recognition for outstanding work by individual members towards the investment	0.59	0.64
Form_Document: The group has a standard format for documenting investment analyses and recommendations	0.95	0.08
Cronbach's Alpha *Total % of Variance* *Bartlett test of sphericity* *Kaiser-Meyer-Olkin Measure of Sampling Adequacy* *Extraction Method: Principal Factor*	*0.97* *93.4 %* *p < 0.001* *0.921*	

6.2.2 Locus of Decision Making

For the locus of decision-making within angel groups, a second factor analysis was conducted using Principal Factor Analysis (PFA) on six variables. The Bartlett Test of Sphericity confirmed inter-variable correlations ($p < 0.001$, $\chi^2 = 1253.059$, df = 15), and the KMO value of 0.855 indicated sampling adequacy.

One factor was retained, with an eigenvalue of 4.94, explaining 96.88% of the total variance. Uniqueness values ranged from 0.0828 ('LOC_Screening') to 0.2403 ('LOC_InvDecision_R'), with factor loadings between 0.8716 and 0.9577. The near-zero determinant of the correlation matrix further supported data factorability.

These results robustly support a single latent construct termed "Locus of Decision Making," which can serve as a composite measure for analyzing decision-making authority distribution within angel groups.

Table 12: Locus of Decision Making - Factor Analysis

	Factor Loadings	Uniqueness
LOC_Screening: The screening process involved a thorough evaluation of the investment opportunity by designated groups or individuals	0.95	0.08
LOC_DealStructure: All the members that invested actively participated in the deal-structuring and negotiation process	0.88	0.21
LOC_InvDecision: Members had the individual freedom to make their own decision to invest in the company	0.87	0.24
LOC_DecisionOpp: Members who invested had the opportunity to participate in and contribute to strategic decision-making during the post-investment stage	0.92	0.13
LOC_DecisionDiscouragement: A member who makes decisions about the investment without consulting the group first would be discouraged	0.88	0.21
LOC_Documenting: The process of creating and maintaining investment-related documentation is centralized and managed by a few key individuals	0.90	0.17
Cronbach's Alpha *Total % of Variance* *Bartlett test of sphericity* *Kaiser-Meyer-Olkin Measure of Sampling Adequacy* *Extraction Method: Principal Factor*	0.9630 0.9577 $p < 0.001$ 0.855	

6.2.3 Exit Strategy

A third factor analysis examined the exit strategy construct within angel groups, also using PFA on six variables. The Bartlett Test of Sphericity confirmed inter-variable correlations ($p < 0.001$, $\chi^2 = 990.475$, $df = 15$), with a KMO value of 0.895 indicating sampling adequacy.

One factor was retained, with an eigenvalue of 4.55, explaining 98.45% of the total variance. Factor loadings ranged from 0.7640 ('VAR10_6 StrategyFormationREV') to 0.9215 ('VAR10_4 StrategyFormation'). The near-zero determinant of the correlation matrix further supported data factorability.

These results substantiate a single latent construct termed "Exit Strategy," capturing the shared variance among exit strategy-related variables.

Table 13: Exit Strategy - Factor Analysis

	Factor Loadings	Uniqueness
Var10_1: At the time of investment, there was a clear plan that outlined the objectives for the investment, including specific timelines and performance metrics	0.89	0.19
Var10_2: A comprehensive exit plan (including time-frame, exit route, valuation target, network connections and budgets) was established at the time of investment	0.91	0.15
Var10_3: The 'possibility of exit' played a major role in making the investment decision	0.85	0.26
Var10_4: The exit strategy was designed to achieve specific objectives (e.g., high return on investment, strategic exit, synergies, etc.)	0.92	0.15
Var10_6: The exit strategy decision-making process remains adaptable to changing circumstances	0.76	0.31
Vat10_7: The pursued exit strategy significantly differs from the original plan	0.85	0.26
Cronbach's Alpha *Total % of Variance* *Bartlett test of sphericity* *Kaiser-Meyer-Olkin Measure of Sampling Adequacy* *Extraction Method: Principal Factor*	0.94 98.45% $p < 0.001$ 0.895	

6.3 Clustering and Kruskal-Wallis Test

6.3.1 Clustering Angel Groups into Quadrants

To gain deeper insights I categorized angel groups based on two key dimensions: formalization and locus of decision-making. This approach allows the clustering of angel groups into four quadrants i.e. high formalization and locus of decision-making, high formalization and low locus of decision making, low formalization and high locus of decision making and low formalization and locus of decision making. This makes it possible to explore underlying associations between archetypes of angel groups and their exit strategy preferences in the upcoming sections.

The k-means clustering analysis categorizes angel groups based on formalization and locus of decision-making, aligning with the conceptual framework.

The first cluster, hybrid angel groups (12.50% of angel groups) is characterized by high formalization and a decentralized locus of decision making. These groups maintain mechanistic processes while distributing decision-making authority, thus naming them hybrid angel groups.

The second cluster, network centric angel groups (32.50%) show low levels of formalization and a distributed locus of decision making. This structure allows for flexibility and responsiveness in early-stage investments, corresponding with network-centric angel groups.

The third cluster, core-periphery angel groups (30.62%) exhibit low formalization but a centralized locus of decision making. In these groups, key decisions are made centrally within a less formal organizational structure, corresponding with core-periphery angel groups.

The fourth cluster, managed angel groups (24.38%) combines high levels of formalization with a centralized locus of decision making. This structure is suited for managing larger, more complex investment portfolios in a controlled environment, corresponding with managed angel groups.

In summary, the distribution of angel groups across all four clusters indicates significant diversity in their organizational structures. This spread shows that angel groups vary in their levels of formalization and loci of decision making. Understanding these variations is crucial, as it not only enriches our comprehension of the angel investing landscape but also provides empirical grounding for the conceptual propositions laid out in the earlier sections of this research.

6.3.2 Kruskal-Wallis Test between Exit Strategy and Angel Group Clusters

To further understand the implications of these organizing differences, I examined whether these clusters exhibit significant differences in their exit strategies. A Kruskal-Wallis test revealed statistically significant differences in exit strategies across the clusters ($p < 0.001$).

Table 14: Summary of Kruskal-Wallis Test

Angel Group Cluster	Observations	Rank Sum	Rank Mean
1	20	1319.00	65.95
2	52	1610.00	30.96
3	49	5010.50	102.26
4	39	4940.50	126.68
Chi-squared (uncorrected): 110.965, df = 3, p = 0.00010 *Chi-squared (corrected): 110.986, df = 3, p = 0.00010*			

The Kruskal-Wallis test results, showing highly significant differences in exit strategies across the clusters (with Chi-squared values of 110.965 and 110.986 and a p-value of 0.00010), provide robust empirical support for the initial clustering of angel groups based on formalization and decision-making locus.

The Rank Sum and Rank Mean for each cluster highlight the differences in exit strategies. Cluster 3 (Rank Mean = 102.26) and Cluster 4 (Rank Mean = 126.68) show notably higher rank means compared to Cluster 1 (Rank Mean = 65.95) and Cluster 2 (Rank Mean = 30.96), implying substantial differences in their strategic approaches.

Table 15: Dunn's Pairwise Comparisons Between Angel Group Clusters. S = Significant; NS = Not Significant

Comparison (Ho)	Rank Means Difference	Critical Value	Prob	Significance
Cluster 1 vs. Cluster 2	34.99	32.16	0.002052	S
Cluster 1 vs. Cluster 3	36.31	32.43	0.001573	S
Cluster 1 vs. Cluster 4	60.73	33.62	0.000001	S
Cluster 2 vs. Cluster 3	71.29	24.34	<0.0001	S
Cluster 2 vs. Cluster 4	95.72	25.89	<0.0001	S
Cluster 3 vs. Cluster 4	24.42	26.23	0.007013	NS

Table 16: Dunn's Test Output

Dunns test			
Clusters	1	2	3
2	2.870342		
	0.0021**		
3	-2.953348	-7.729435	
	0.0016**	0.0000***	
4	-4.766277	-9.753603	-2.456807
	0.0000***	0.0000***	0.0070**

Dunn's pairwise comparisons further elucidate the strategic differences amongst angel groups, offering a detailed perspective on their approaches to exit strategies. Significant distinctions between Clusters 1 and 2, and between these clusters and Clusters 3 and 4, highlight varied strategic priorities and approaches to exit strategies. The notable divergence between Cluster 2 and Clusters 3 and 4 suggests differences in how these groups perceive and execute their investment strategies. Given these significant differences in exit strategies, further analyses provide a more in-depth examination of the specific characteristics of exit strategies preferred by each cluster. The statistical results are presented in Appendix D.

6.3.3 Clustering Exit Strategy

The next phase of the analysis focuses on clustering exit strategies among angel groups to examine the categorization of strategic approaches used in planning and implementing exit strategies. This clustering process is crucial for understanding the heterogeneity in strategic preferences and provides an analytical framework for discerning distinct methodologies and orientations in angel investing. The exit strategy variable is clustered into four distinct groups, following the conceptual framework and hypothesis.

Cluster 1 (18.12% of total; Mean Score: -0.528; 29 Angel Groups) encapsulates groups inclined towards emergent exit strategies. The negative mean score and moderate standard deviation suggest a strategic preference for flexibility and adaptability, with groups favouring exit strategies shaped in response to evolving market conditions.

Cluster 2 (22.50% of total; Mean Score: -1.448; 36 Angel Groups) represents the most pronounced inclination towards emergent strategies. The significantly negative mean score indicates a strong preference for fluid and adaptable exit approaches, implying a high value placed on responsiveness to changing investment landscapes.

Cluster 3 (26.25% of total; Mean Score: 0.315; 42 Angel Groups) is characterized by a balanced approach. The slightly positive mean score reflects a blend of pre-defined exit plans and flexibility to adapt, suggesting a strategic orientation that values both the structure of planned strategies and the agility of emergent approaches.

Cluster 4 (33.12% of total; Mean Score: 1.023; 53 Angel Groups) distinctly favours deliberate, planned exit strategies. The highest positive mean score indicates a preference for structured and pre-defined exit plans, prioritizing clarity and predictability in exit roadmaps.

The varied scores across clusters underscore the strategic diversity in angel group exit strategies, ranging from highly emergent to planned strategies. This highlights the complex decision-making processes inherent in angel investing, suggesting a more complex landscape compared to other institutional investors. The research suggests a correlation between the structural characteristics of angel groups (identified in the earlier clustering based on formalization and decision-making) and their exit strategies, which will be investigated further in the following sections.

6.3.4 Relationship between Clusters of Angel Groups and Exit Strategies

There is strong evidence of a significant association between the four different angel group clusters and their exit strategies. This relationship is supported by several statistical tests:

1. The Cramer's V test indicates a moderate to strong association, suggesting that certain types of angel groups have distinct preferences for specific exit strategies. This variation likely reflects inherent group characteristics such as risk tolerance, investment philosophy or operational style.
2. Poisson regression and Kendall's Tau analyses reveal a directional and positive relationship between the type of angel group and its preferred

exit strategy. This implies that understanding the nature of an angel group can offer insights into its likely exit strategy preferences.

3. The Chi-square test further confirms a non-random and substantial association between angel group clusters and their approach to exit strategies.

The consistency of these findings across various statistical measures strengthens the reliability and validity of the conclusions. This underlines a significant relationship between the structural and decision-making characteristics of angel groups and their strategic choices for investment exits.

These results highlight the importance of considering organizational structure when studying angel groups, particularly in relation to their investment exit strategies.

Table 17: Pearson's Chi2 and Cramer's V

Cluster ID	1	2	3	4	Total
1	12	0	7	1	20
2	12	36	4	0	52
3	5	0	21	23	49
4	0	0	10	29	39
Total	29	36	42	53	160

Pearson chi2(9) = 160.9876 Pr = 0.000
Cramér's V = 0.5791

Table 18: Poisson Regression

Poisson Regression	
Number of observations	160
LR chi2(1)	29.38
Prob>chi2	0.0000
Pseudo R2	0.0575

Angel Group Cluster	IRR	Std.Error	z	P>|z|	[95% conf. interval]	
strategy cluster	1.280461	.059897	5.29	0.000	1.168286	1.403407
_cons	1.306569	.1955754	1.79	0.074	0.9743598	1.752046

The analysis reveals a strong positive correlation between angel group archetypes and their exit strategy preferences. This means that as we move from one type of angel group to another, there is a consistent change in the preferred exit strategies. The test results, particularly Tau-b being close to 1, indicate a robust association between the organizational characteristics of angel groups and their strategic choices for investment exits. Table 19 displays the results of the Kendall's Tau test conducted in the study.

This finding implies a meaningful and robust ordinal association, indicating that the structural and decision-making characteristics of angel groups (as represented by their clusters) are significantly correlated with their approaches to exit strategies.

Table 19: Kendall's Tau

Kendall's Tau	
Number of obs	160
Kendall's tau-a	0.4675
Kendall's tau-b	0.6350
Kendall's score	5947
SE of score	625.687
Test of H0: Angel Group Clusters and Strategy Clusters are independent	
Prob > |z| = 0.0000 (continuity corrected)	

The biplot generated from the Correspondence Analysis displays points representing the clusters of angel groups (indicated by blue circles) and the clusters of exit strategies (indicated by red triangles) in a two-dimensional space defined by Dimension 1 and Dimension 2. The percentages in the axis

titles indicate how much of the total inertia each dimension accounts for, with Dimension 1 accounting for 74.7% and Dimension 2 accounting for 23.3%.

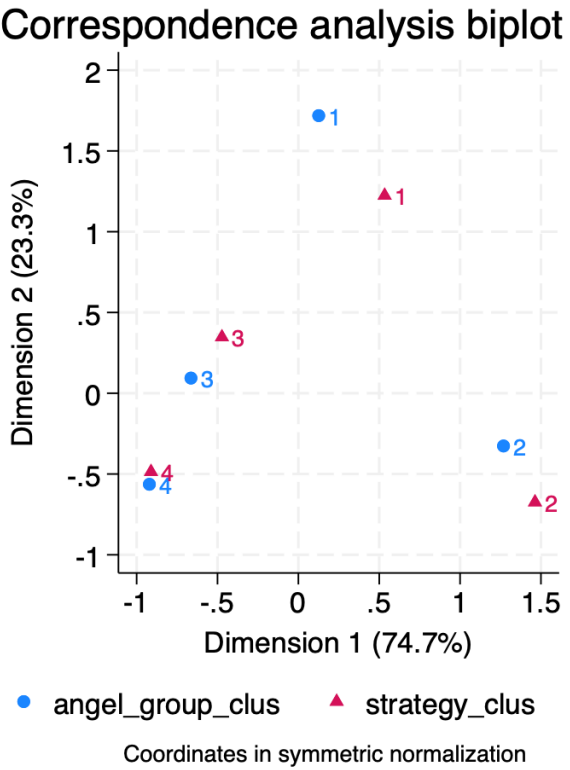


Figure 5: Correspondence Analysis

Dimension 1 predominantly distinguishes the clusters based on their exit strategy preferences. A higher score on this dimension correlates with a predilection for more structured and planned exit strategies, while a lower score suggests an inclination towards more fluid, emergent exit approaches. Dimension 2, though contributing less to the total variance, refines the differentiation among the clusters, potentially revealing subtler aspects of exit strategy approaches not encapsulated by Dimension 1.

Regarding the Cluster Associations:

- Angel Group Cluster 4 (Managed Angel Groups) and Strategy Cluster 4 (S4) are closely associated, indicating a strong inclination toward more deliberate and planned exit strategies.
- Angel Group Cluster 2 (Network Centric Angel Groups) is closely aligned with Strategy Cluster 2 (S2), suggesting a preference for emergent exit strategies within this group.
- Angel Group Cluster 3 (Core-Periphery Angel Groups) shows proximity to Strategy Cluster 3 (S3), indicating a link between the characteristics of this angel group cluster and a balanced approach to exit strategies.
- Angel Group Cluster 1 (Hybrid Angel Groups) is located in the quadrant with Strategy Cluster 1 (S1), suggesting a slight preference for emergent exit strategies, but not as pronounced as in Cluster 2.

The opposing positions of Network Centric Angel Groups-S2 and Managed Angel Groups-S4 across the origin on Dimension 1 imply contrasting exit strategy approaches between these clusters. The dominance of Dimension 1 indicates that the planned versus emergent nature of exit strategies is a fundamental differentiator among the clusters, while Dimension 2's contribution suggests additional layers of strategy differentiation.

The biplot's clear visualization reflects a nuanced landscape where different angel groups exhibit distinct strategic orientations toward exit planning. The analysis shows that while some groups are strongly inclined toward a structured exit approach, others display a marked preference for flexibility and adaptability, with additional clusters exhibiting a mix of these tendencies.

The cluster and factor analyses conducted in this study have provided valuable insights into the organizational structures and exit strategy preferences of angel groups. Three key factors were identified: Formalization, Locus of Decision Making and Exit Strategy. These factors formed the basis for categorizing angel groups into four distinct clusters, each representing a unique combination of formalization levels and decision-making approaches.

The distribution of angel groups across these clusters reveals significant diversity in organizational structures within the angel investing landscape. Statistical analyses unveiled a strong association between these organizational clusters and the groups' preferred exit strategies. This finding indicates that the way an angel group is structured and makes decisions is significantly associated with its approach to exiting investments.

6.4 Discussion of Cluster Analysis and Subsequent Analyses

To enhance the understanding of heterogeneity within angel groups, the study employed a clustering analysis focused on formalization, locus of decision-making and corresponding exit strategies. This approach not only added depth to the data but also facilitated an examination of associations between specific types of angel groups and their preferred exit strategies.

The clustering analysis conducted in this study has unveiled distinct groups within the angel investing community, each characterized by unique combinations of formalization and loci of decision-making. These clusters, reflect the diverse strategic approaches within the angel investing landscape, ranging from moderately formalized and distributed decision-making structures to highly formalized and centralized models. These clusters could accommodate the diverse angel group operating structures previously discussed in literature. This diversity signifies a strategic evolution and adaptation within the community.

Cluster 1 Presence of exit plans that are shaped according to market conditions*	**Cluster 2** Exits are not a priority, emphasize an emergent approach*** Past Literature Example: 'Angel Networks' (Croce et al., 2017; Månsson and Landström, 2006; May, 2002).
Cluster 3 Balances pre-defined exit plans with adaptability** Past Literature Example: 'Core-periphery' Model (Mason et al., 2019)	**Cluster 4** Preplanned and deliberate exit strategies, emphasizing clarity and predictability*** Past Literature Example: Managed Angel Groups (Mason et al., 2019; Ibrahim, 2008)

**: Indicates a weak association between the angel group cluster and their exit strategy*

***: Indicates a moderate association between the angel group cluster and their exit strategy*

****: Indicates a strong association between the angel group cluster and their exit strategy*

Star ratings are based on statistical analysis, including Chi-Square, Cramer's V, and Correspondence Analysis, indicating the strength of association between angel group clusters and their exit strategy

Figure 6: Angel Group Clusters and Exit Strategy Associations

The categorization of angel groups into four distinct clusters based on formalization and decision-making can be interpreted as indicative of their varied approaches to exit strategies. The first cluster, or hybrid angel groups, exemplifying a mix of moderate formalization with distributed decision-making, could be seen as embodying a strategic agility reflective of modern angel investing trends (Mason et al., 2019). This model may integrate mechanistic aspects of venture capital practices with the inherent responsiveness and adaptability of angel investing, which is crucial for navigating early-stage ventures (Sohl, 2019; Mason & Harrison, 2015). Members of this cluster likely balance consistency with flexibility. It is possible that they initially establish clear exit strategies, providing a defined framework for operation, while remaining open to adjustments based on the unfolding journey and the evolving relationship with the investee company. This approach may include routines for learning from experience and their proactive implementation (Smith et al., 2010). Such an approach could allow for detailed exit planning while retaining the versatility needed to respond to market changes and the unique growth paths of portfolio companies (Politis, 2016). However, this approach may be tempered by adherence to core group guidelines, ensuring strategic coherence despite the decentralized nature of decision-making (Lewis & Zalan, 2012). Monitoring systems and performance evaluations could be integral to this balance, aligning varied tactical approaches within a unified strategic vision. In summary, angel groups in this cluster called hybrid angel groups, could be navigating their investment and exit processes with a sophisticated interplay of structured guidance and responsive execution. They might demonstrate how disciplined formalization and dynamic decision-making can coexist and enhance each other in the realm of early-stage investing. This strategic balance may position angel groups to adapt effectively within established parameters, maintaining the integrity of their exit strategies while optimizing them in response to evolving market conditions.

In the second cluster, network centric angel groups are characterized by low formalization and a preference for distributed decision-making, reflecting key trends in angel investing that emphasize adaptability and syndication, such as keiretsu forums or angel networks that perform screening functions for members and educational initiatives (Croce et al., 2017; Månsson & Landström, 2006). These groups prioritize organic collaboration over hierarchical structures, aligning with emergent and adaptive exit strategies (Brander, Amit & Antweiler, 2002). By granting decision-making autonomy to individual members, they harness a breadth of insights and expertise crucial for identifying timely exit opportunities (Croce et al., 2017). This autonomy

reflects a collective confidence in the group's members to make informed choices aligned with shared growth and sustainability objectives (Mason & Harrison, 2006). Exit strategies within these groups may be dynamic, constantly shaped through interaction, discussion and refinement based on real-time market feedback and member expertise (Carpentier & Suret, 2013). This flexibility may ensure that exit opportunities are not overlooked due to procedural constraints, potentially optimizing both short-term and long-term investment outcomes. Furthermore, the distributed decision-making may enhance the richness of their exit strategy discussions. Contributions from each member or subgroup, informed by diverse perspectives, culminate in a collective strategy that is comprehensive and multifaceted (Supovitz & Tognatta, 2013). This diversity of thought allows for a broader range of exit scenarios, maximizing the potential for successful exits and robust returns on investments. In summary, angel groups in this cluster exemplify a strategic orientation where the agility to adapt and the capacity to grow organically are valued above stringent formal structures.

The third cluster, core-periphery angel groups, featuring centralized decision-making within a less formalized framework, presents a hybrid model that merges an adaptable, evolving framework with guided direction. This blend allows for a central leadership to set the overall investment and exit strategies, while peripheral members adapt and manoeuvre within these guidelines, embodying similar models to the core-periphery model of Mason et al. (2019). Centralized decision-making could act as the strategic anchor, providing the consistency and direction crucial for navigating the uncertainties of early-stage investing. This central control ensures a unified vision amidst the fluid market, allowing swift adjustments to the investment strategy to meet exit objectives (Morrissette, 2007). However, the group’s lower degree of formalization may infuse strategic flexibility, and inculcates implementing newer routines, enabling members to leverage their unique expertise and insights (Harrison et al., 2015). This approach could create exit strategies that are responsive to real-time market changes, recognizing the non-linear path to successful exits and the value of collective intelligence. As a result, the exit strategies of these groups are expected to balance firm leadership with individual member autonomy. Central directives may serve more as guiding principles rather than rigid rules, providing a strategic framework that accommodates both proactive and reactive market approaches. This model could allow the group to navigate changes effectively, maximizing potential returns by adapting their exit trajectory. Investment monitoring and exit planning are characterized by a responsive and dynamic approach rather than strict formalities. The system may rely on the expertise within the group, using informal networks and

member insights for timely recognition and action on exit opportunities (Carpentier & Suret, 2015).

The fourth cluster, managed angel groups, characterized by high formalization and centralized decision-making, epitomizes a paradigm where structured rigour meets strategic clarity. Mirroring the professionalized ethos of institutional investment entities, including examples noted by Ibrahim (2008) and Mason and Botelho (2016), these groups may approach angel investing with meticulous planning and clearly defined exit strategies. Centralized decision-making in these groups could serve as a cornerstone, streamlining the approach to managing the inherent complexities of early-stage investments. Strong governance mechanisms, such as boards and gatekeepers, may strategically be employed to ensure that investments are aligned with well-defined exit plans, in line with the concepts articulated by Mason et al. (2016). The formalization within these groups could emphasize due diligence and systematic exit planning, resonating with Berger and Udell's (2006) focus on thorough risk assessment being needed for early-stage companies. This approach ensures that, despite market volatility, investment strategies stay focused on achieving profitable exits, following a venture capital approach. These angel groups may adopt a comprehensive risk management approach, similar to the one described by Cumming (2008). Their conservative risk-taking aligns with the significant financial stakes involved, crafting exit strategies that proactively target industries or ventures with clear exit potential. Investments could be made with a deliberate focus on the end goal, maintaining congruence between action and intention throughout the investment lifecycle. Structured monitoring systems, including routine performance reviews based on KPIs may be in place, reinforcing their commitment to the envisioned exit strategy. This regimented oversight could ensure consistent alignment with the exit strategy and clarifies member roles and objectives, providing a transparent framework for navigating the investment process, similarly to the models described in traditional venture capital firms (Smith, 2005).

The confirmation of the presence of such heterogeneity could have implications for capital-seeking companies, where understanding potential investors' exit strategy preferences is crucial. Angel groups favouring structured exits could prefer companies with clear, traditional exit routes like acquisitions or IPOs. These groups prioritize predictability, likely requiring detailed exit plans in pitches and often investing in near-exit-ready companies. While offering security, this approach may constrain unconventional business models (Gompers & Lerner, 2001; Carpentier & Suret, 2015).

Conversely, groups preferring emergent, flexible exit strategies could be drawn to startups operating in a wide range of markets, where business models are innovative and exit opportunities are opportunistic rather than predetermined. The alignment of business plans with such groups could require entrepreneurs to demonstrate adaptability and an acute understanding of market dynamics, thereby positioning themselves as agile entities capable of navigating uncertainty and capitalizing on emergent trends (Wright, Lockett & Pruthi, 2002; Croce et al., 2017).

Building on these findings, the next section examines the factors that are associated with exit strategies in greater detail. I employ multiple analytical methods including Structural Equation Modelling (SEM), regression analysis, polynomial regression, and crisp-set Qualitative Comparative Analysis (csQCA). This combination of techniques allows us to investigate the relationships between organizational coordination and exit strategies, identify potential non-linear effects and explore configurational patterns.

7. An Empirical Investigation of Exit Strategies

7.1 Structural Equation Modelling

As discussed in earlier chapters, structural equation modelling (SEM) is a confirmatory technique that is used to test a theory and thus necessitates theory-driven planning, involving prior knowledge or a hypothesis regarding potential relationships between the variables (Tabachnick & Fidell, 2019). The model was therefore used to jointly test the research hypotheses previously presented in Chapter 5. The results of the analysis are presented in Table 20.

Table 20: Structural Equation Model

	Coefficient	Robust Std. Error	z	P>|z|
Formalization				
CON_InvSize	0.4099	0.053	7.67	0.000*
CON_DealsCompleted	0.3253	0.062	5.23	0.000*
_cons	-2.785	0.194	-14.35	0.000*
Locus				
CON_InvSize	0.479	0.043	11.03	0.000*
CON_DealsCompleted	0.223	0.059	3.79	0.000*
_cons	-2.901	0.174	-16.68	0.000*
Strategy				
Formalization	0.190	0.043	4.41	0.000*
Locus	0.720	0.044	16.07	0.000*
_cons	2.950	0.040	0.00	1.000
var(e.formalization)	0.440	0.048		
var(e.locus)	0.424	0.037		
var(e.strategy)	0.259	0.029		

This Structural Equation Model (SEM) utilizes robust maximum likelihood estimation and is based on a sample of 160 observations. The SEM aims to investigate the structural relationships between three latent factors: 'Formalization,' 'Locus of Decision Making' ('Locus') and 'Exit Strategy' ('Strategy'), while also considering the observed variables 'Investment Size' ('CON_InvSize') and 'Investment Rate' ('CON_DealsCompleted'). By simultaneously considering multiple relationships, SEM offers a comprehensive view of how different variables related to angel groups are associated to one another.

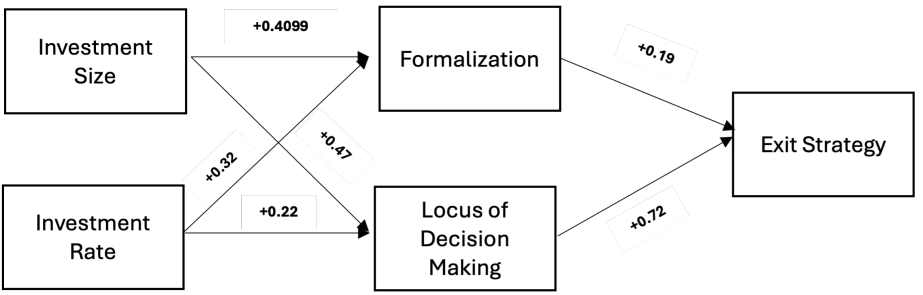


Figure 7: Structural Equation Model

The analysis utilizes two ordinal categorical variables, namely CON_InvSize and CON_DealsCompleted, each with 5 and 7 categories respectively. The decision to include these ordinal variables in the SEM analysis was underpinned by several methodological and conceptual considerations. Firstly, it is well established in the literature that ordinal variables with a relatively large number of categories can, in certain contexts, be treated as continuous without leading to significant errors in interpretation (Rhemtulla, Brosseau-Liard & Savalei, 2012). The rationale is that as the number of categories increases, the variable's distribution begins to resemble a continuous one, thereby justifying the application of methods designed for continuous data (Bollen & Barb, 1981). Secondly, to address potential concerns regarding the violation of multivariate normality, a common assumption in SEM, I employed Robust Maximum Likelihood (MLR) estimation. MLR provides robust standard errors and a scaled test statistic that are valid even when the data do not meet the assumption of multivariate normality (Yuan & Bentler, 2007). This approach is particularly beneficial when dealing with ordinal or non-normally distributed data (Li, 2016). Lastly, the inclusion of the ordinal variables in the SEM was not solely a methodological decision but also a

research-driven one. The constructs represented by CON_InvSize and CON_DealsCompleted are integral to the research questions and hypotheses being investigated, thereby necessitating their inclusion in the model.

When discussing the relationships with Formalization, Investment Size (CON_InvSize) holds a positive and statistically significant relationship (β=0.4099, $p < 0.001$). This suggests that as the size of the investment increases, there is a tendency for angel groups to adopt more formalized practices. This could be attributed to the need for a structured approach in managing larger investments, which often entail greater complexity and risk exposure. The relationship between Rate of Investment (CON_DealsCompleted) and Formalization is also positive and significant (β=0.3253, $p < 0.001$). Angel groups that have high investment activity, and likely manage a larger portfolio as a result of this, are likely to have more formalized structures and processes to govern the larger portfolio.

The relationship between Locus of Decision Making and Investment Size (CON_InvSize) is positive and statistically significant (β=0.4791, $p < 0.001$). This implies that larger investments are associated with a more centralized decision-making process. Similarly, a positive and significant relationship is observed between deals completed and locus of decision-making (β=0.2238, $p < 0.001$).

Furthermore, there is a positive and significant relationship between Formalization and Exit Strategy (β=0.1905, $p<0.001$). This indicates that angel groups with more formalized processes are likely to have a propensity to plan their exit strategies, suggesting that formalization aids in strategic clarity and planning. Similarly, the relationship between the Locus of Decision-Making and Exit Strategy is positive and highly significant (β=0.7204, $p<0.001$).

Table 21: Hypotheses Results Summary

	Supported 2 of 2
H1a: The size of investment made by angel groups is positively associated with the degree of formalization.	Investment Size → Formalization (+)
H1b: The size of investments made by angel groups is positively associated with the degree of locus of decision making.	Investment Size → Locus of Decision Making (+)

H2a: A higher investment rate by angel groups is positively associated with the degree of formalization. H2b: A higher investment rate by angel groups is positively associated with the degree of locus of decision making.	Supported 2 of 2 Investment Rate → Formalization (+) Investment Rate → Locus of Decision Making (+)
H3a: A higher degree of formalization is positively associated with planned exit strategies. H3b: A higher degree of locus of decision-making is positively associated with planned exit strategies.	Supported 2 of 2 Formalization → Planned Exit Strategies (+) Locus of Decision Making → Planned Exit Strategies (+)

The model demonstrated good fit to the data, as evidenced by appropriate fit statistics. Given the use of robust standard errors in the analysis, focus was placed on fit statistics that remain valid under this estimation approach, particularly those based on residuals.

The Standardized Root Mean Squared Residual (SRMR) value of 0.020 is well below the recommended upper limit of 0.08, indicating a good fit (Hu & Bentler, 1999). Additionally, the Coefficient of Determination (CD) of 0.717 suggests that approximately 71.7% of the variance in the dependent variables can be explained by the model, which is considered substantial (Falk & Miller, 1992; Hu & Bentler, 1999).

Table 22: SEM post-hoc tests

Fit statistic	Value	Description
Size of residuals		
SRMR	0.020	Standardized root mean squared residual
CD	0.717	Coefficient of determination

7.2 Regression Analysis

Following the structural equation modelling, I now employ robust linear regression analysis, to further dissect and quantify the relationships between the key variables, incorporating additional dimensions that were not included in the SEM analysis. While SEM provided a broad understanding of the interrelationships and latent constructs, linear regression offers a more focused lens, allowing us to isolate and scrutinize the direct effects of both key and additional independent variables on the dependent variables (formalization, locus of decision making and exit strategy). Importantly, this regression analysis integrates control variables – namely, CON_Holding_Period, Industry Dummy Variables, CON_BAG_Involvement, CON_AGE and CON_Occupation_Investor – which are crucial for refining our understanding of these relationships. The inclusion of these controls enables us to account for potential confounding factors, thus enhancing the precision and robustness of the findings. The addition of the regression allows for a more complete picture of the data and the enrichment of our understanding of it. The discussion also makes additional considerations about the relationships previously identified in the SEM analysis, which maintain their significance.

Table 23: Regression Analysis of Formalization and Locus of Decision Making

Variables	Formalization	Locus
CON_InvSize	0.311***	0.418***
	(0.0558)	(0.0535)
CON_DealsCompleted	0.246***	0.165**
	(0.0654)	(0.0647)
CON_Holding_Period	-0.281***	-0.294***
	(0.100)	(0.100)
CON_BAG_Involvement	0.155***	
	(0.0537)	
Constant	-1.676***	-1.557***
	(0.506)	(0.505)
Observations	160	160
R-squared	0.591	0.584
Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1		

Table 24: Regression Analysis of Strategy

Variables	Strategy
Locus	0.756***
	(0.0615)
Formalization	0.205***
	(0.0593)
CON_Age	-0.101
	(0.0737)
CON_Occupation_Investor	0.0647
	(0.118)
CON_Focus_Tech	-0.202**
	(0.102)
CON_Focus_Finance	-0.0890
	(0.144)
CON_Focus_Health	0.0722
	(0.108)
CON_Focus_Consumer	-0.177
	(0.172)
CON_Focus_Energy	0.0950
	(0.234)
CON_Focus_Other	0.0458
	(0.225)
Constant	0.440
	(0.301)
Observations	160
R-squared	0.740
Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1	

The first regression analysis sheds light on the factors influencing formalization within angel groups. As previously identified in the SEM analysis, a notable positive relationship emerges between the size of the investment (CON_InvSize) and formalization ($\beta = 0.311$, $p < 0.001$). This indicates that larger investments, which typically involve significant financial commitments, are associated with higher degrees of formalization. Such a trend can be attributed to the increased risks and the need for thorough due diligence and risk management associated with larger capital allocations, as discussed by Mozes and Orchard (2012) and Doshi et al. (2018). This

observation is in line with Mason et al. (2019), who note a shift in angel investing from individual-based to more structured group dynamics.

Once again, the analysis reveals that the number of deals completed (CON_DealsCompleted) is positively correlated with formalization ($\beta = 0.246$, $p < 0.000$). This indicates that angel groups with a history of more completed deals tend to have higher levels of formalization. This could be interpreted as a sign of accumulated experience and learning, leading to more structured processes over time, as discussed by Harrison et al. (2015).

Conversely, the expected holding period of investments (CON_Holding_Period) exhibits a significant negative relationship with formalization ($\beta = -0.281$, $p < 0.006$). This suggests that investments intended for longer durations tend to be associated with less formalization. This finding supports the notion that long-term investments might allow for greater flexibility and reduced immediate oversight, as suggested by Croce et al. (2011) and Dibrova (2015), thus favouring a less formalized structure within angel groups.

Additionally, the involvement of business angel groups (CON_BAG_Involvement) is found to significantly positively affect formalization ($\beta = 0.155$, $p < 0.004$). This finding underscores the role of active participation by angel groups in fostering more structured and formalized processes. One key reason for this could be the necessity to clarify roles and responsibilities among members. As angel groups grow in size and the number of members actively participating in investment decisions increases, the need for clear governance structures may become increasingly important. Moreover, greater member involvement often brings diverse expertise and perspectives, necessitating formal mechanisms to effectively integrate and manage this diversity, and maintain coordination.

Post-estimation tests were conducted to validate the robustness and reliability of the regression model examining the influence of investment characteristics on formalization in angel groups.

The Lasso Goodness-of-Fit test showed a Mean Squared Error of 0.4010 and an R-squared value of 0.5909, indicating a robust model fit. Variance Inflation Factor analysis (VIF = 1.57) confirmed the absence of significant multicollinearity. The Breusch-Pagan test (chi-squared = 2.08, $p = 0.1497$) suggested no significant heteroskedasticity, implying consistent error variances. These results collectively support the validity and reliability of the regression model.

The second regression analysis, where the dependent variable is the locus of decision making, demonstrates a strong explanatory power with an R-squared of 0.5844. There is a significant positive relationship between investment size and the locus of decision making ($\beta = 0.418$, $p < 0.001$). This indicates that larger investments tend to be associated with a more centralized decision-making locus, perhaps due to the increased need for oversight and risk management associated with larger capital allocations (Gompers et al., 2020).

The model also shows a significant negative correlation with the holding period ($\beta = -0.294$, $p < 0.01$). This suggests that investments with longer holding periods are linked to more decentralized decision-making, possibly due to the need for flexibility over extended durations.

Deals Completed shows a positive relationship with the locus of decision-making ($\beta = 0.165$, $p < 0.005$) indicating that angel groups with a history of more completed deals might favour more centralized decision-making. This could be due to the accumulated experience and expertise in managing investments, fostering a preference for structured and unified decision processes. Centralized decision-making can act as a unifying force, ensuring that the diverse inputs from active members are synthesized into a coherent and strategic direction for the group (Binsbergen et al., 2011; Dass et al., 2012). The model demonstrates a good fit and robustness: VIF values (1.59 to 1.69, mean 1.63) indicate no multicollinearity concerns; Breusch-Pagan test (chi2 = 0.07, $p = 0.7905$) shows no heteroskedasticity; Lasso GOF has an MSE of 0.4026092 and an R-squared of 0.5844.

The third regression model, focusing on exit strategy within angel groups, demonstrates strong explanatory power with an R-squared of 0.7405. There is a significant positive relationship between formalization and exit strategy ($\beta = 0.205$, $p < 0.001$). This suggests that higher degrees of formalization within angel groups are associated with more defined and structured strategic approaches, similarly to the approach seen in venture capital funds (Mainprize et al., 2003; Gompers et al., 2020).

Further, the locus of decision-making shows a very strong positive correlation with exit strategy ($\beta = 0.756$, $p < 0.001$). This is indicative of a centralization of decision-making power being a crucial factor in strategic development, through facilitative cohesive strategies in line with the group's objectives.

Additionally, the analysis indicates a significant negative association between focusing on technology investments (CON_Focus_Tech) and exit strategy ($\beta = -0.202$, $p < 0.05$), suggesting that angel groups specializing in technology

might have distinctive strategic approaches, possibly due to the dynamic and rapidly evolving nature of the tech sector.

The model exhibits a solid fit and robustness: VIF values (1.19 to 2.22, mean 1.54) show no significant multicollinearity; Breusch-Pagan test (chi2 = 1.37, p = 0.2418) indicates no heteroskedasticity; Lasso GOF reports an MSE of 0.246474 and an R-squared of 0.7405.

7.3 Polynomial Regression

To investigate the complex relationships between the variables of interest and strategic approaches within angel groups, a polynomial logit regression analysis was employed. This methodological approach captures non-linear relationships, enabling a more nuanced understanding of the factors influencing strategy implementation in angel investing. The analysis uses Strategy Cluster 2 as the reference category, against which the other three clusters are compared.

Table 25: Polynomial Logit Regression between Strategy Cluster and Independent Variables

Polynomial Logit Regression between Strategy Cluster and Independent Variables				
VARIABLES	1	2	3	4
angel_group_clus	-3.437***	(base outcome)	-1.702***	-2.564***
	(0.645)		(0.469)	(0.625)
CON_BAG_Involvement	-0.0873		-0.189	-0.136
	(0.416)		(0.335)	(0.428)
CON_Focus_Tech	1.427		0.720	16.88
	(1.189)		(0.697)	-1,262
CON_Focus_Finance	-0.836		-0.418	-30.08
	(1.541)		(0.744)	-2,267
CON_Focus_Health	-0.947		-0.867	-16.37
	(1.355)		(0.776)	-2,022

CON_Focus_Consumer	-1.208		-2.071	-0.00229
	(1.959)		(1.527)	(2.018)
CON_Focus_Energy	-0.374		-0.298	-18.25
	(2.213)		(1.374)	-5,046
CON_Focus_Other	-0.424		-0.634	16.68
	(2.407)		(1.688)	-1,262
CON_Focus_None	-2.254		-1.914**	15.05
	(1.519)		(0.936)	-1,262
CON_Holding_Period	3.346***		1.748**	3.024***
	(0.945)		(0.759)	(0.915)
o.angel_group_clus		-		
o.CON_BAG_Involvement		-		
o.CON_Focus_Tech		-		
o.CON_Focus_Finance		-		
o.CON_Focus_Health		-		
o.CON_Focus_Consumer		-		
o.CON_Focus_Energy		-		
o.CON_Focus_Other		-		
o.CON_Focus_None		-		
o.CON_Holding_Period		-		

o._cons		0		
		0		
Constant	-0.973		1.273	-17.48
	(3.687)		(2.859)	-1,262
Observations	160	160	160	160

7.3.1 Expected Holding Period and Strategy Implementation

The most notable finding from this analysis is the significant positive relationship between the expected holding period of investments (CON_Holding_Period) and the probability of adopting strategies characteristic of Clusters 1, 3, and 4, relative to Cluster 2. The coefficients for this variable are consistently positive and statistically significant across all three clusters (Cluster 1: $\beta = 3.346$, $p < 0.001$; Cluster 3: $\beta = 1.748$, $p < 0.05$; Cluster 4: $\beta = 3.024$, $p < 0.001$). This strong association indicates that the anticipated investment duration plays a pivotal role in shaping the strategic approaches of angel groups. As the expected holding period increases, angel groups are more likely to adopt strategies aligned with Clusters 1, 3, and 4. The non-linear nature of this relationship, captured by the polynomial regression, suggests that the effect of holding period on strategy choice may not be uniform across its range. This implies that there may be critical thresholds in investment duration that trigger shifts in strategic approach. For example, investments expected to be held for extended periods might necessitate more patient capital strategies, as noted by Kerr et al. (2014), who observed that angel investors often have more flexible time horizons compared to traditional venture capitalists.

7.3.2 Industry Focus and Strategic Approaches

The analysis reveals noteworthy patterns regarding the relationship between industry focus and strategy implementation. While most industry focus variables do not show statistically significant effects, the absence of a specific industry focus (CON_Focus_None) emerges as a significant predictor for Cluster 3 ($\beta = -1.914$, $p < 0.05$). This negative coefficient indicates that angel groups without a specific industry focus are less likely to adopt strategies

associated with Cluster 3, compared to the reference category (Cluster 2). This finding suggests that industry specialization may lead to distinct strategic approaches in angel investing. It is consistent with the work of Carpentier and Suret (2015), who found that industry expertise influences the decision-making processes of angel investors. The polynomial regression captures potential non-linear effects in this relationship, indicating that the impact of industry focus on strategy might vary across different levels of specialization. Notably, while not statistically significant, the technology focus (CON_Focus_Tech) shows consistently positive coefficients across clusters. This trend, although not conclusive, suggests that tech-focused angel groups might have a slight tendency to adopt different strategic approaches. This is in line with the observations of Mollick and Robb (2016), who noted the unique characteristics of angel investing in technology sectors.

7.3.3 Business Angel Group Involvement

Contrary to initial expectations, the involvement of business angel groups (CON_BAG_Involvement) does not show statistically significant effects on the strategy clusters in this polynomial regression model. The coefficients for this variable are consistently negative but not significant across all clusters (Cluster 1: $\beta = -0.0873$, $p > 0.05$; Cluster 3: $\beta = -0.189$, $p > 0.05$; Cluster 4: $\beta = -0.136$, $p > 0.05$). This lack of significant effect is noteworthy and somewhat contradicts earlier findings in the literature, such as those of Bonini et al. (2018), who found that the level of involvement in angel groups influenced investment practices. The polynomial nature of this regression allows for the possibility of non-linear relationships, suggesting that the effect of group involvement on strategy might be more complex than previously thought. It is possible that the influence of group involvement on strategy is mediated or moderated by other factors not captured in this model.

7.3.4 Marginal Effects

Table 26: Marginal Effects

	Outcome 1	Outcome 2	Outcome 3	Outcome 4
1				
Number of angels that invested in this company	-0.0873	-0.0873	-0.0873	-0.0873

	(-0.21)	(-0.21)	(-0.21)	(-0.21)
CON_Focus_Tech	1.427	1.427	1.427	1.427
	(1.20)	(1.20)	(1.20)	(1.20)
CON_Focus_Finance	-0.836	-0.836	-0.836	-0.836
	(-0.54)	(-0.54)	(-0.54)	(-0.54)
CON_Focus_Health	-0.947	-0.947	-0.947	-0.947
	(-0.70)	(-0.70)	(-0.70)	(-0.70)
CON_Focus_Consumer	-1.208	-1.208	-1.208	-1.208
	(-0.62)	(-0.62)	(-0.62)	(-0.62)
CON_Focus_Energy	-0.374	-0.374	-0.374	-0.374
	(-0.17)	(-0.17)	(-0.17)	(-0.17)
CON_Focus_Other	-0.424	-0.424	-0.424	-0.424
	(-0.18)	(-0.18)	(-0.18)	(-0.18)
CON_Focus_None	-2.254	-2.254	-2.254	-2.254
	(-1.48)	(-1.48)	(-1.48)	(-1.48)
Expected holding period of investment	3.346***	3.346***	3.346***	3.346***
	(3.54)	(3.54)	(3.54)	(3.54)
2				
Number of angels that invested in this company	0	0	0	0
	(.)	(.)	(.)	(.)
CON_Focus_Tech	0	0	0	0
	(.)	(.)	(.)	(.)

CON_Focus_Finance	0	0	0	0
	(.)	(.)	(.)	(.)
CON_Focus_Health	0	0	0	0
	(.)	(.)	(.)	(.)
CON_Focus_Consumer	0	0	0	0
	(.)	(.)	(.)	(.)
CON_Focus_Energy	0	0	0	0
	(.)	(.)	(.)	(.)
CON_Focus_Other	0	0	0	0
	(.)	(.)	(.)	(.)
CON_Focus_None	0	0	0	0
	(.)	(.)	(.)	(.)
Expected holding period of investment	0	0	0	0
	(.)	(.)	(.)	(.)
3				
Number of angels that invested in this company	-0.189	-0.189	-0.189	-0.189
	(-0.56)	(-0.56)	(-0.56)	(-0.56)
CON_Focus_Tech	0.720	0.720	0.720	0.720
	(1.03)	(1.03)	(1.03)	(1.03)
CON_Focus_Finance	-0.418	-0.418	-0.418	-0.418

	(-0.56)	(-0.56)	(-0.56)	(-0.56)
CON_Focus_Health	-0.867	-0.867	-0.867	-0.867
	(-1.12)	(-1.12)	(-1.12)	(-1.12)
CON_Focus_Consumer	-2.071	-2.071	-2.071	-2.071
	(-1.36)	(-1.36)	(-1.36)	(-1.36)
CON_Focus_Energy	-0.298	-0.298	-0.298	-0.298
	(-0.22)	(-0.22)	(-0.22)	(-0.22)
CON_Focus_Other	-0.634	-0.634	-0.634	-0.634
	(-0.38)	(-0.38)	(-0.38)	(-0.38)
CON_Focus_None	-1.914*	-1.914*	-1.914*	-1.914*
	(-2.04)	(-2.04)	(-2.04)	(-2.04)
Expected holding period of investment	1.748*	1.748*	1.748*	1.748*
	(2.30)	(2.30)	(2.30)	(2.30)
4				
Number of angels that invested in this company	-0.136	-0.136	-0.136	-0.136
	(-0.32)	(-0.32)	(-0.32)	(-0.32)
CON_Focus_Tech	16.88	16.88	16.88	16.88
	(0.01)	(0.01)	(0.01)	(0.01)
CON_Focus_Finance	-30.08	-30.08	-30.08	-30.08
	(-0.01)	(-0.01)	(-0.01)	(-0.01)
CON_Focus_Health	-16.37	-16.37	-16.37	-16.37

	(-0.01)	(-0.01)	(-0.01)	(-0.01)
CON_Focus_Consumer	-0.00229	-0.00229	-0.00229	-0.00229
	(-0.00)	(-0.00)	(-0.00)	(-0.00)
CON_Focus_Energy	-18.25	-18.25	-18.25	-18.25
	(-0.00)	(-0.00)	(-0.00)	(-0.00)
CON_Focus_Other	16.68	16.68	16.68	16.68
	(0.01)	(0.01)	(0.01)	(0.01)
CON_Focus_None	15.05	15.05	15.05	15.05
	(0.01)	(0.01)	(0.01)	(0.01)
Expected holding period of investment	3.024***	3.024***	3.024***	3.024***
	(3.31)	(3.31)	(3.31)	(3.31)
Observations	160	160	160	160

To further investigate the complex relationships between the independent variables and the probability of angel groups adopting specific strategic approaches, a marginal effects analysis was conducted. This analysis complements the polynomial logit regression by providing insights into how changes in the independent variables affect the probability of an angel group being in each strategy cluster, while holding other variables constant.

The marginal effects for the expected holding period (CON_Holding_Period) demonstrate a consistent and statistically significant positive effect across all strategy clusters. For Cluster 1, a one-unit increase in the expected holding period is associated with a 3.346 percentage point increase in the probability of an angel group adopting strategies characteristic of this cluster ($p < 0.001$). Similarly, for Clusters 3 and 4, the marginal effects are 1.748 ($p < 0.05$) and 3.024 ($p < 0.001$) percentage points, respectively. These results reinforce the findings from the polynomial logit regression and underscore the critical role of investment time horizons in shaping angel group strategies. The magnitude

of these effects, particularly for Clusters 1 and 4, suggests that the expected holding period is a key determinant in strategy implementation. The non-linear nature of the model allows for capturing potential variations in these effects across different levels of expected holding periods. The consistently positive marginal effects across all clusters suggest that longer holding periods generally increase the likelihood of adopting more structured or comprehensive investment strategies, regardless of the specific strategic orientation of the cluster.

The marginal effects for industry focus variables provide insights into how specialization influences strategy implementation. While most industry focus variables do not show statistically significant marginal effects, the lack of a specific industry focus (CON_Focus_None) demonstrates a significant negative marginal effect for Cluster 3 (-1.914 percentage points, $p < 0.05$). This finding suggests that angel groups without a specific industry focus are less likely to adopt strategies associated with Cluster 3. It reinforces the earlier observation from the polynomial logit regression and provides quantitative evidence for the importance of industry specialization in strategy implementation. The marginal effects for technology focus (CON_Focus_Tech), while not statistically significant, show a consistent positive trend across clusters (1.427 for Cluster 1, 0.720 for Cluster 3 and 16.88 for Cluster 4). Although these results lack statistical significance, they hint at a potential tendency for tech-focused angel groups to adopt diverse strategic approaches.

The marginal effects for business angel group involvement (CON_BAG_Involvement) are consistently negative across all clusters (-0.0873 for Cluster 1, -0.189 for Cluster 3, and -0.136 for Cluster 4), but none reach statistical significance. This pattern, while not conclusive, suggests a slight tendency for more involved groups to be less likely to adopt certain strategies. The lack of statistical significance in these marginal effects aligns with the earlier findings from the polynomial logit regression.

7.4 Crisp Set Qualitative Comparative Analysis (csQCA)

To further investigate the relationship between locus of control, formalization and strategy implementation in angel investing, a crisp set qualitative comparative analysis (csQCA) was conducted using the Quine-McCluskey

algorithm. This method allows for the identification of necessary and sufficient conditions leading to the absence of a dichotomous strategy variable (Strategy_Dichotomous).

7.4.1 Truth Table Analysis

Table 27: Truth Table Analysis

Truth Table Analysis				
Model	~Strategy_Dichotomous = f(Locus_Dichotomous, Formalization_Dichotomous)			
Algorithm	Quine-McCluskey			
frequency cutoff	26			
consistency cutoff	0.907407			
		Raw Coverage	Unique Coverage	Consistency
Complex Solution		0.6125	0.6125	0.907407
Parsimonious Solution		0.6125	0.6125	0.907407
Intermediate Solution		0.6125	0.6125	0.907407

The truth table analysis, which applied a frequency cutoff of 26 and a consistency cutoff of 0.907407, yielded a significant and robust solution across the complex, parsimonious and intermediate solutions.

The key finding from this analysis was the solution term "~Locus_Dichotomous*~Formalization_Dichotomous," indicating that the absence of both a high locus of control and a high degree of formalization is a sufficient condition for the absence of the dichotomous strategy variable.

This finding has important implications for understanding the strategic approaches adopted by angel groups. It suggests that angel groups with low levels of both locus of control and formalization are more likely to employ strategic approaches that differ from those captured by the dichotomous

strategy variable. In other words, these angel groups may exhibit more diverse, potentially ad-hoc strategic behaviours that do not align with the pre-defined strategies represented by the dichotomous variable.

The raw and unique coverage of the solution term (0.6125) indicates that this configuration of low locus of control and low formalization accounts for a substantial proportion of the cases where the dichotomous strategy variable is absent. This suggests that this particular combination of conditions is a prevalent and important driver of divergent strategic approaches amongst angel groups.

The high consistency of the solution term (0.907407) further reinforces the robustness of this finding. It indicates that the vast majority of cases exhibiting the absence of the dichotomous strategy variable also display low levels of both locus of control and formalization. This strong alignment between the solution term and the outcome enhances confidence in the identified relationship.

7.5 Discussion of the Analysis

The multi-method findings of this study, encompassing SEM, polynomial regression and csQCA analyses, reveal a nuanced picture of the factors shaping exit strategies in angel groups. At the core of this transformation is financial capital, which emerges not merely as a facilitator of investment opportunities, but as a catalyst for organizational coordination.

As angel groups accumulate financial resources, they face increasing complexity and risk associated with larger investments, necessitating the development of formalized structures and processes (Ibrahim, 2008; DaRin & Phalippou, 2014; Davies et al., 2017). This formalization could represent a shift from tacit, experiential knowledge to explicit, codified guidelines and criteria (Bingham & Eisenhardt, 2011), enabling angel groups to devise exit strategies informed by a systematic understanding of market dynamics and past outcomes instead of by intuition of adhocracy.

Simultaneously, the locus of decision-making within angel groups evolves in response to the changing scale and nature of investments. As financial capital grows, the need for a cohesive decision-making approach that is unified becomes paramount. This shift often leads to a more centralized approach to decision-making, in which strategic decisions, especially concerning exits,

could be concentrated within a core leadership team or a manager (Paul & Whittam, 2010). This centralization ensures consistency and strategic alignment across the investment portfolio (Mainprize et al., 2003), reinforcing their ability to navigate complex investment landscapes efficiently. Furthermore, the results suggest that as investments grow in magnitude, angel groups are more likely to centralize their decision-making. Larger investments typically bring about greater complexity and risk, necessitating a unified and streamlined decision-making approach (Goldman & Strobl, 2013; 2010). The polynomial regression analysis adds nuance to this finding, highlighting the role of investment holding periods in shaping angel groups' strategic approaches and positing that centralization serves to enhance the coherence of strategic decisions, aligning them with the group's overarching investment goals and risk management protocols (Cumming et al., 2007; Dimov & De Clercq, 2006).

However, the csQCA findings suggest that the absence of centralized decision-making, in conjunction with low levels of formalization, may lead to more diverse, potentially ad hoc strategic behaviours (Wiltbank et al., 2009). This insight highlights the importance of considering the interplay between decision-making structures and formalization in shaping angel groups' strategic orientations. While centralization can enhance efficiency and strategic coherence, it may also limit the flexibility and adaptability of angel groups in responding to dynamic market conditions.

The impact of formalization and locus of decision-making on exit strategies can also be elaborated on. While the preceding text highlighted the foundational role of financial capital in shaping formalization and locus of decision-making, this section delves deeper into how these two elements optimize investment and exit strategies within angel groups. The findings reveal that more formalized angel groups are associated with planned exit strategies.

Formalization is underscored as a strategic framework that not only streamlines investment management but also orchestrates exit planning and implementation; it enables detailed investment analysis, fosters the establishment of solid governance structures and delineates explicit exit routes. Further reinforcing this transition is the positive correlation between the number of deals completed and formalization. This relationship suggests that angel groups with a history of more deals may develop higher levels of formalization over time, a trend attributable to the cumulative experience and learning from each deal (Harrison et al., 2015). Each completed deal not only contributes to the group’s financial capacity but may also refine its formal

processes, enhancing operational effectiveness and adaptability in a volatile market. This role of formalization within angel groups can further be conceptualized through Feldman and Pentland's (2003) concept of organizational routines. According to this perspective, formalization in angel groups can be viewed as a collection of routines comprising of ostensive and performative aspects. The ostensive aspect represents the ideal patterns of behaviour, shared norms and procedures, acting as a blueprint for actions like due diligence, investment evaluation or market timing for exits. This aspect provides a structured approach within the uncertain domain of angel investing. Meanwhile, the performative aspect refers to the actual enactment of these routines by individual members, embodying the dynamic nature of formalization. It recognizes the adaptability in routine application, allowing for tailored execution based on individual expertise and specific investment scenarios. This interplay between structure and flexibility is crucial for angel groups to respond to market changes and unique investment opportunities.

The locus of decision-making also plays a crucial role in shaping exit strategies within angel groups. Centralized decision-making may facilitate a unified strategic direction, ensuring that exit plans are not only consistent but also reflective of the group's collective investment objectives (Andrews et al., 2009). This is particularly crucial when dealing with larger investments, where a streamlined decision-making process can enhance the efficiency and coherence of exit strategies, aligning them closely with the group's broader investment goals. Through a centralized approach, angel groups can react to changes in the market, attempt to seize opportunities efficiently and navigate through the complex and often time-sensitive dynamics of early-stage ventures (Zollo & Winter, 2002).

Exploring the impact of formalization and locus of decision-making on exit strategies through the lens of the Resource-Based View, adapted to the context of angel groups, reveals the foundational role of financial capital. The acquisition and allocation of financial capital appear to be the initial steps critically linked to the establishment and subsequent structure of an angel group. This linkage stems from the fundamental reliance on financial resources for participation in early-stage investing and the subsequent execution of exit strategies. Unlike traditional firms where strategic advantage is sought through the differentiation and deployment of various resources, angel groups operate on a regulatory premise where financial capital may be both the enabler and the constraint, thus being associated with subsequent engagement in the investment landscape.

The interplay of financial capital, formalization and decision-making within angel groups reveals a changing landscape where both organic and more mechanistic groups coexist. This duality signifies the expansion of the entrepreneurial finance ecosystem, accommodating a wide spectrum of opportunities across different stages of firm growth. The emergence of mechanistic angel groups, characterized by higher levels of formalization and centralized decision-making, does not eclipse organic ones, which may have more flexible structures and decentralized decision-making. Instead it highlights a market rich in opportunities, where diverse angel group archetypes can coexist, catering to the varying needs of early-stage ventures and adapting to the dynamic nature of the investment landscape.

7.6 Discussion of the Macro Level Analysis

This study's survey results enrich our understanding of business angel groups, addressing a notable gap in the current literature. By quantifying the inherent heterogeneity within these groups, the research moves beyond the previously shapeless portrayal of angel group operations in the entrepreneurial finance landscape. Past studies have recognized the diversity in the functioning of angel groups (Cerullo & Sommer, 2002; Lewis & Zalan, 2012; May, 2002; Mason et al., 2019), but lacked a systematic approach to measuring this variability, resulting in a fragmented understanding of their investment behaviour.

The emergence of angel groups is partly a response to the increasing challenges in achieving successful exits, where individual angels previously relied heavily on co-investors like venture capital funds (Mason et al., 2013, 2016; Peters, 2009; McKaskill, 2009; Mason et al., 2015). This shift suggests that angel groups offer a collective platform that enhances bargaining power and influence in the exit process (Harrison et al., 2010; Mason & Botelho, 2014; Croce et al., 2017) while adding greater value to portfolio firms (Politis, 2008; Kerr, Lerner & Schoar, 2014; Lerner et al., 2018). However, existing research has not adequately defined the specific elements that underscore the strength of angel groups nor how these resources impact their exit strategies.

The empirical findings of this research challenge the traditional view of exit strategies as emergent or incidental outcomes of quality investments (Van Osnabrugge & Robinson, 2001; Mason & Harrison, 2015). Contrary to the prevailing belief that successful exits naturally follow from good investments

(Gray, 2011), this study reveals a more deliberate and strategic approach, shaped by the interplay of formalization and locus of decision-making.

This reorientation has substantial implications for the broader entrepreneurial finance landscape, particularly in the context of an increasingly complex environment for achieving exits. The rise of alternative funding mechanisms, such as crowdfunding and initial coin offerings, has introduced new layers of complexity to traditional exit pathways (Lyandres, Palazzo & Rabetti, 2022; Civardi et al., 2023). In this evolving landscape, the strategic foresight of angel groups in planning and executing exits - often through IPOs or trade sales - becomes increasingly critical. This foresight is especially evident in well-capitalized angel groups which can engage in late-stage investments, including pre-IPO rounds, and secure follow-up financing without relying heavily on external co-investors. Their financial autonomy enhances the feasibility and predictability of successful exits, giving them greater control over the timing and execution of their strategies.

Moreover, among the clusters, this study highlights the emergence of a newer, less researched archetype of angel group, one that occupies a middle ground between the informal nature of traditional business angels and the highly mechanistic approach of venture capital funds. These hybrid angel groups balance the opposing characteristics of these approaches, finding a balance between the mechanistic and the organic. This middle-group "hybrid" positioning allows this archetype of angel groups to fill a critical gap in the entrepreneurial finance ecosystem, engaging with startups that are too early-stage or unconventional for venture capital but require more than what traditional angels can offer. The upcoming case study delves into the micro-level dynamics to investigate how the group utilizes and mobilizes its resource base to pursue exit strategies.

8. Case Study of an Angel Group

This chapter presents an in-depth qualitative analysis that both complements and extends the quantitative findings of our research on angel group exit strategies. The earlier quantitative phase identified a distinct category of investment entities known as "hybrid angel groups." These groups occupy a unique space within the entrepreneurial finance landscape, effectively bridging the gap between individual angel investors and more formalized venture capital structures.

The dynamics and nature of these hybrid angel groups are central to the research problem addressed in this study. The quantitative analysis revealed that these groups represent a hybrid organizational form, blending elements of both informal and formal investing. This hybridity challenges conventional understandings of early-stage investing and introduces unique organizational tensions and dynamics that existing research on angel investing and venture capital has not fully explored.

While the quantitative analysis provided a broad view of the landscape, identifying key factors - financial resources, decision-making locus and formalization - associated with more deliberate exit strategies, this qualitative study delves deeper into these issues. It focuses on the micro-level processes that underpin these relationships, offering a more nuanced understanding of how hybrid angel groups operate and make decisions regarding their exit strategies.

This shift from macro to micro perspective allows us to explore the intricate ways in which hybrid angel groups mobilize their resources, balance formality with flexibility and ultimately shape their investment outcomes. By linking these micro-level insights with the macro-level quantitative findings, I aim to construct a more comprehensive understanding of hybrid angel groups and their approach to exit strategies.

In this qualitative phase, I engage with three main questions:

1. How do hybrid angel groups develop and deploy dynamic capabilities to effectively implement their chosen exit strategies?

2. How do these developed dynamic capabilities function within the context of hybrid angel groups? Are they operating in isolation or in a synergistic manner?
3. How do hybrid angel groups approach and utilize exit strategies?

The chapter is structured as follows: I present an interview-based case study that focuses on Angel Group 'A', an angel group selected from cluster 1 or "Hybrid Angel Groups" of the cluster analysis during the quantitative phase of this research. 'A' comprises six highly experienced investors and professionals, epitomizing the essence of a business angel as described by Landström (1998), and operates collaboratively across four cities in Southern Sweden. Their investment portfolio encompasses a range of sectors, including information technology, deeptech, medtech, consumer goods and fintech, reflecting the diverse expertise and backgrounds of its members. Angel Group 'A' operates on a flat hierarchy, with all six members holding equal decision-making power. This structure is supported by formal documents outlining operational procedures, such as board meeting frequency, voting and decision-making processes, to ensure clarity and consistency in the group's actions. The selection of Angel Group 'A' for an in-depth case study follows a methodological approach that prioritizes the examination of entities representative of emerging trends within the angel investing landscape. This case study delves into how members of 'A' utilize their resources at hand for navigating exit strategies within a diversified investment portfolio. Furthermore, this qualitative inquiry aims to shed light on the practical implementation of formalization and decision-making processes in securing successful exits for angel groups. While a case study of a single angel group does indeed offer limited possibilities for empirical generalization, it can provide valuable theoretical insights and challenge existing assumptions in the field. As Flyvbjerg (2006) argues, the "power of the good example" should not be underestimated. A well-chosen case can serve as a "black swan," disproving or reshaping long-held beliefs about a particular phenomenon. In this context, Angel Group 'A' represents a critical case, embodying the key characteristics of the "Hybrid Angel Group" cluster identified in the quantitative phase. Moreover, the single case study approach aligns with the exploratory nature of this research. As the concept of "hybrid angel groups" is being proposed in this thesis, and is nascent in literature, an in-depth examination of a representative case can lay the groundwork for future studies and theory-building efforts. By illuminating the micro-level processes and dynamics at play within Angel Group 'A', this study can generate new hypotheses and avenues for further research. By linking the macro-level insights from the quantitative part with

the micro-level processes explored in this qualitative part, I aim to provide a more holistic understanding of hybrid angel group dynamics and their approach to exit strategies, particularly IPOs. This integrated perspective will contribute to advancing both theoretical knowledge and practical guidance in the evolving field of angel group investing.

8.1 Initial Public Offerings as the Preferred Exit Route

The case study of this Swedish angel group, which represents 'angel groups in transition', presents a unique perspective on Initial Public Offerings (IPOs) as a preferred exit strategy, challenging conventional wisdom in angel investing, of IPOs being viewed as a final exit point (Carpentier & Suret, 2015; Chahine, Wright & Filatotchev, 2007). Member A4 expresses this strategic inclination: "We want the company to move towards an IPO. That's my preference because it aligns with my expertise and where I can provide the most assistance". The group's IPO preference extends beyond the listing event itself, encompassing active involvement in the crucial pre-IPO phase. Member A4 articulates this focus: "We aim to invest in the pre-IPO stage. We may not always achieve that, but that's the goal". The preference for IPOs is indicative not only of a financial benchmark but also of the angel group's ability to steer companies through their growth phases to the point where a public listing is both feasible and beneficial.

Member A5 highlights the group's IPO competencies: "We have people experienced with IPOs, and we have also consulted other experts for their opinions on the market and such." Similarly, A1 notes: "We have the capacity for public listings this way (...) Different members of our angel group often take the lead based on their expertise, depending on the company." In addition to the group's competencies in IPOs, members actively utilize and engage a network that advocates for IPOs as a viable exit strategy. This preference is observed through their pre-IPO involvement, as A1 states:

> "In the lead-up to an IPO, we conduct pre-IPO investment rounds. These pre-IPO rounds are not just about raising capital; they're part of an overall strategy aimed at positioning the company favourably for the listing."

The group's IPO preference is particularly noteworthy given their focus on high-risk, growth-stage firms. Despite the inherent risks and challenges in

growth-stage ventures (Berger & Udell, 2006), the group is well-prepared to pursue IPOs as a viable exit route. Another driver of this preference could be the institutional environment they operate in. The regulatory environment in Sweden, particularly for stock exchanges like NASDAQ First North and the Spotlight Stock Exchange, is conducive to growth-stage companies. The listing requirements are relatively lower, with more lenient regulations. However, there is still an experience-based barrier, despite the ease of regulations as A4 points out:

> "The Spotlight IPO market suits early-stage and growth-stage companies, with typically less stringent requirements. Getting ready for an IPO, even on smaller exchanges like First North, involves a lot of work. We ensure the company's financials are sound, create a compelling investor narrative and comply with all regulations. Our management team collaborates with financial advisors and legal teams to meticulously plan and execute each step (…) The ideal period is maybe one to three years before an IPO"

This timing aligns with research highlighting the importance of this phase, where decisions and ownership prior to IPO are key predictors of post-IPO performance and survival (Alavi, 2008).

Considering the repeated emphasis placed by the members on their experience with IPOs, suggests that this IPO preference is an active strategic choice driven by their distinctive capabilities. Leveraging their accumulated experience and insights from their networks, the angel group navigates these favorable conditions, identifying IPOs as a beneficial and plausible exit path for their portfolio companies. This preference is consistent with the broader understanding that angel investors often optimize their strategies based on local market conditions (Cumming & Zhang, 2019).

The Swedish regulatory framework appears to provide a supportive environment for IPOs, facilitating growth-stage companies' access to public markets. Interestingly, although similarly relaxed regulations exist in other countries like the United Kingdom (with AIM) and Canada (with TSXV), business angels in these regions often prefer trade sales over IPOs (Carpentier & Suret, 2015; Chahine, Wright & Filatotchev, 2007). This discrepancy could be explained by considering the 'hybrid' nature of this angel group, which has developed specialized capabilities and networks around IPOs. Member A4 highlights their expertise in steering companies towards IPOs, while Member A5 notes their consultation with external IPO experts. This level of specialization and external engagement is more characteristic of venture capital firms than traditional angel groups (Hellmann & Thiele, 2015). This

transitional status could be attributed to the institutional nature of the Swedish markets, that allow for pursuing IPOs. Furthermore, this interpretation aligns with research on the co-evolution of entrepreneurial ecosystems and investor strategies. As ecosystems mature, investors often specialize and professionalize to meet the changing needs of startups (Feld, 2012; Drover et al., 2017). The Swedish angel group's IPO focus could be a manifestation of this co-evolutionary dynamic. Moreover, the group's transition towards a venture capital-like model could explain their divergence from the trade sale preferences of angels in other regions. As angels professionalize and adopt more sophisticated investment strategies, they may gravitate towards exit options that offer greater potential for high returns and strategic control, such as IPOs (Bonini et al., 2018). The concept of a 'hybrid angel group' also offers a way to reconcile the discrepancy between the Swedish group's IPO preference and the trade sale preferences found in other regions. This discrepancy may not reflect a fundamental difference in regional contexts, but rather the group's unique evolutionary trajectory. This evolutionary perspective invites a reconsideration of how we conceptualize angel investing. Rather than being a static category, angel investing may be better understood as a spectrum ranging from informal, individual investors to highly professionalized, quasi-venture capital groups. The Swedish group's IPO preference could be a marker of their position on this spectrum.

IPOs as Strategic Tools

The angel group's approach to IPOs as a strategic, multi-purpose tool for value creation represents a significant departure from the conventional understanding of IPOs in the angel investing context. Traditionally, IPOs have been viewed as a final exit point, marking the end of the angel investor's active involvement and the realization of financial returns (Collewaert, 2012; Dong et al., 2020). However, this case study reveals a more nuanced and strategic utilization of IPOs that challenges this conventional wisdom. As evidenced thus far by the interviews, the divergence from the conventional IPO approach can be understood as a reflection of their unique capabilities and long-term orientation, which also distinguishes the angel group from the typical angel investor mindset (Mason et al., 2019).

In this context, IPOs represent a multi-purpose tool for the angel group. On one hand, they serve as a strategic milestone, marking a significant phase in the company's journey where it achieves a substantial valuation, opens up new growth avenues and consolidates its market position (Chod & Lyandres, 2011). Member A4's reflection on the group's approach to IPOs:

> "An IPO provides liquidity, which is an important consideration for the portfolio and future investments"(…) "And as it is in Sweden now, we don't at all see an IPO as an exit. It's instead a way of funding, not liquidation of holdings. We see this as a step on the way because we are listing these very early-stage companies at very low valuations. So, we instead see that that's one of the inflection points where we can actually get a higher valuation."

indicates a deliberate strategy, aligning IPO timing with market conditions and company maturity. This approach presents a contrast to the findings of past research, where factors like competition, information asymmetry and control benefits significantly influenced the choice between IPOs and acquisitions (Bayar & Chemmanur, 2010).

IPOs also provide a pragmatic mechanism for the angel group to regain liquidity, especially in scenarios of strategic realignment or valuation concerns. As Member A4 notes, the group is willing to sell when they perceive the market valuation as overly high, yet they remain open to reinvesting when valuations become more favourable. This flexibility illustrates their strategic use of IPOs as a dynamic tool, balancing the potential for long-term growth against immediate financial prudence:

> "Even if it's a fantastic company, like the one that I mentioned, there is of course a valuation that we think is too high. And in this case, its market value was definitely too high for this company. So we were sellers (…) But when the valuation comes down again, then we are buyers again."

There are benefits in pursuing an IPO, as highlighted by Kutsuna et al., (2016), beyond financial gains - a successful listing can lead to positive spillover effects, such as increased revenue and stronger supply-chain relationships. Moreover, as Hartzell (2004) notes, robust corporate governance structures established in the IPO buildup, contribute to higher valuations and better long-term performance, aligning with the angel group's focus on sustainable growth. A4 states:

> "When a portfolio company lists on the stock market, we are not sellers, at least not immediately. We don't have any problems with being owners for a long time (…) I don't think any of us has any problem with being owners of interesting companies for a long time."

This stance is markedly different from typical market behaviours, where, as Chen et al. (2012) document, insiders often sell their shares following IPO lockup periods. Such sales are usually motivated by a desire to capitalize on

short-term price increases or to reduce personal financial risk amidst market volatility. The group's decision to retain shares post-IPO reflects a strong belief in the intrinsic value and growth prospects of their portfolio companies. By opting against immediate selling, they demonstrate a commitment to the long-term potential of these companies, looking beyond the initial market fluctuations post-IPO. This shows a priority for sustained growth and value appreciation over immediate financial gains.

Complementing their long-term stance post-IPO, the angel group recognizes IPOs as conduits for future capital raising and as a means to enhance company visibility and credibility, which contributes to long-term value maximization (Chiu & Sharfman, 2011). As Member A5 articulates:

> "Listing on the First North was a strategic decision. It was actually a decision that was pushed by the founder. We of course discussed it a lot, and it was a tricky one. As I said, the company was not profitable, so it was a strategic decision actually. One of the reasons that we saw was that the company would get visibility and credibility by being listed."

highlighting a utilization of the IPO as a strategic choice that can bring multiple benefits to the company. Member A4 elaborates on this approach by the angel group, which could potentially help with boosting the extrinsic value of the company:

> "I mean, we don't at all see an IPO as an exit. It's instead a way of funding, not liquidation of holdings. We see this as step on the way because we are listing these very early-stage companies at very low valuations. So, we instead see that that's one of the sort of inflection points where we can actually get a higher valuation."

A1 discusses the IPO positioning of the group as a vehicle for legitimacy, which in turn helps raise further capital, that will assist in reaching the value goals of the company: "listing not only provides an exit route, but it also validates the company in the public market and potentially attracts more capital". A5 furthers this point of legitimacy, where IPO acts as an intended signal to the stock market, regarding the company and, by extension, the angel group's commitment: "this was an overall signal to the market and potential investors that we were serious players, that we had met the requirements of listing, and went through the effort and the cost to do so. It definitely signalled commitment."

The angel group sees IPOs as critical milestones in a company's growth, emphasizing long-term benefits over immediate financial returns. They leverage IPOs to enhance company visibility, credibility and legitimacy, aligning with the signalling effects discussed by Chemmanur and Fulghieri (1999) and Chiu and Sharfman (2011). Their strategy includes active post-IPO involvement to shape the company's future trajectory, prioritizing sustained engagement over a quick exit. This ongoing involvement suggests a fundamentally different conceptualization of the angel investor's role. Rather than being a passive provider of early-stage capital, the group positions itself as a strategic partner. This shift in perspective challenges the traditional boundaries of angel investing and blurs the lines between the roles of angel investors and venture capital investors. Historically, angel investors have been associated with early-stage seed funding, while venture capitalists have focused on later-stage growth and expansion (Hellmann & Thiele, 2015). However, the Swedish group's approach suggests a blurring of these lines and a more continuous spectrum of early-stage financing.

By remaining actively engaged and contributing to a company's development beyond the IPO, these angel investors are adopting roles and strategies typically associated with venture capitalists. This convergence of angel investing and venture capital practices raises intriguing questions about the evolving dynamics of early-stage financing and the allocation of resources within the entrepreneurial ecosystem.

One possible interpretation is that the Swedish group's approach represents a new hybrid model of early-stage investing that combines the hands-on, value-added approach of venture capitalists with the early-stage focus and risk tolerance of angel investors. This hybrid model may be particularly well-suited to the Swedish context, where the regulatory environment and market conditions favour IPOs as a strategic tool for growth and value creation.

However, the blurring of boundaries between angel investing and venture capital also raises concerns about potential conflicts of interest and the alignment of incentives. As angel investors take on more active and long-term roles, there may be a risk of diverging priorities and competing claims on value creation. Future research could explore how these hybrid models navigate the challenges of balancing the interests of different stakeholders and ensuring fair value distribution.

This angel group's approach to IPOs also prompts a rethinking of value creation dynamics in the context of early-stage investing. Traditional models of angel investing have emphasized the unidirectional flow of value from

investors to ventures, with a focus on providing capital, advice and network access (Politis, 2008). However, the Swedish group's long-term, strategic engagement suggests a more reciprocal and symbiotic relationship between angel investors and their portfolio companies.

By actively contributing to a company's post-IPO growth and development, these angel investors are engaging in a process of co-creation, where value is jointly produced and shared between the investor and the venture. This co-creation dynamic extends beyond the provision of resources and encompasses the strategic shaping of the company's future direction and market positioning.

In the following section, I discuss themes that emerged from the qualitative analysis. These themes represent dynamic capabilities developed by the angel group and provide insight into how they utilize their resources to work towards their exit strategies.

8.2 The Interplay between Formality and Flexibility

The angel group has a foundational framework, built upon a series of well-defined practices including board-voting mechanisms, consensus agreements, shareholder agreements and memorandums of understanding. These elements collectively outline the procedures through which members engage and make decisions. The angel group initially set up the framework to guide decision-making practices and to serve as a cornerstone for transparency and consistency. Decisions are formally made by the board, with rules and shareholder agreements in place to guide operations. A1 describes this mechanistic intention: “All the decisions are taken by the board... we set up some rules initially. We have, of course, a shareholder agreement.”

A2 elaborates on the practical application of this structure:

> “We put money into our investment company, as a fund, when they decide to invest, and it's registered as an AB. So, we need to follow all the rules that we have, according to the company in Sweden. So by that, we have a structure”.

A1 elaborates on the board’s decision-making practices and underscores the importance of member involvement: “The decisions are taken by the board, and we are all part, I mean, members of the board. So that is more like the way we are supposed to take decisions”. In establishing the angel group as a fund, the members collectively decided to become part of the board and to register

the group as an investment company. This angel group implemented a framework that is inclusive and takes the diverse perspectives and expertise of all members into account. This formal decision-making set-up seems to be inspired by the approach that venture capital funds undertake (Sahlman, 1990; Silveira et al., 2016). However, this angel group has adapted the underlying mechanistic features to suit their context, which is quite different from VC funds. Instead of assigning different classes of shares or creating hierarchical partnerships as seen in venture capital funds (Smith, 2005) or other formalized angel groups such as general partners and limited partners, they have maintained equal voting and decision-making rights for all members without any distinction on paper. This creates a foundation in which each member's insights and expertise are valued equally, fostering a culture of collective intelligence and shared responsibility. Therefore, the group fosters a richer, more nuanced understanding of investment opportunities and challenges, with an organic structure within. A3 admits: “Yes, we have a formal structure, although, I must admit that we did not really use it so much eventually.” For example, operational decisions related to portfolio companies are typically concentrated among 1-2 members, who assume specific responsibility, carried independently of formal meetings with other members. A2 describes this:

> “We have split the different companies between us to maintain contact. They make most decisions for these companies and are well-acquainted with the business from their career experience. Besides, we have regular meetings and board meetings about the group itself and other major issues”.

This allows for tailored engagement with each venture, as the group attempts to address the varying investment needs and challenges as swiftly and effectively as they can. This is interesting, as the mechanistic feature was set up to be flat and non-stratified, the organic system shows aspects of stratification (Burns and Stalker, 1961), that seem to be based on contextual capability. Decisions relating to the group itself and broader meta-discussions are held through formal board meetings that require a voting practice. The stratification emerges based on contextual capability, with members assuming specific responsibilities for portfolio companies based on their expertise and experience.

A1 provides an example of this stratification: "Different members of our angel group often take the lead based on their expertise and depending on the company." This approach allows the group to leverage each member's unique skill set for specific investment scenarios. For instance, Member A4's financial acumen positions them as a key figure in navigating regulatory compliance and

investor interactions during IPOs and trade sales, while Member A2's technical industry expertise provides targeted advice for relevant portfolio companies.

This deliberate utilization of specialized knowledge is complemented by an ad hoc approach when dividing responsibilities, shaped by the members' closeness to and familiarity with the portfolio company. As A5 elaborates, “We are always two people who are in contact with the company, which means that we will always require to have a report before going into our board meeting.” This engagement strategy ensures that the group remains well-informed about the performance and needs of each portfolio company while maintaining a coordinated decision-making process for broader, strategic discussions.

This balance between organic and mechanistic elements is also evident in the group's decision-making practices when analyzing companies which exhibit a confrontation between these two approaches. The process of pitch evaluation within the group is inherently collaborative, capitalizing on the collective intelligence and experience of all members, as stated by A1 “We typically do that in the team, which is, we listen to the company, we have discussions, we ask questions. And we make a decision based on that.” This collaborative approach is complemented by the individual domain knowledge of group members, as highlighted by A1's example:

> “There are other times though, we are a bit more involved. I can think of this other company, in which initially, I had little knowledge about. But we had another member from this group that knew this domain quite well, and they brought this opportunity.”

In addition to the formal framework, the angel group gives rise to organic practices through spontaneous discussions and rapid expertise mobilization. A4 explains, "If I have an interesting case, I might call a few of them... to discuss recent events and what's happening." These quick, informal interactions between members facilitate fast knowledge exchange, which is crucial in a sector where timing is critical.

The angel group's interplay between formality and flexibility, as evidenced by their adaptation of venture capital fund frameworks and their organic practices, can be understood as a dynamic capability that has been developed in response to their unique position as a hybrid angel group. The group's ability to recognize the benefits of mechanistic coordination while reshaping it to suit their collective goals and diverse member experiences reflects what Teece (2009) describes as a 'seizing capability'. This seizing capability allows the group to effectively navigate the complexities of early-stage investing and

work towards successful exits, particularly IPOs, which require a higher level of sophistication and strategic control compared to trade sales.

The development of this dynamic capability could explain why this angel group can function effectively and secure exits. The interplay of mechanistic and organic practices allows this group to occupy a growing space on the investor spectrum, where the mechanistic elements provide stability, while the organic components enable operation at a smaller scale - a feat that venture capital funds are increasingly struggling to achieve (Liu, 2023). Venture capital funds face mounting pressure to invest larger sums of capital to justify the costs associated with their rigid mechanistic systems (Bain & Co., 2024; Kedrosky, 2009). Conversely, individual angels often lack the resources or collective knowledge to develop such routines, operating in a largely ad hoc manner (Mason et al., 2019).

This angel group strikes a balance between these two extremes by recognizing the benefits of mechanistic coordination while reshaping it to suit their collective goals and diverse member experiences. By matching individual members' specialized skills with the needs of specific portfolio companies, the group ensures that its interventions are both highly relevant and impactful. This approach not only capitalizes on the unique strengths within the group but also fosters a deeper, more personal engagement with the ventures they support.

8.3 Dynamic Risk Management

Dynamic risk management emerges as a dynamic capability in this analysis which delves into how the group proactively navigates risks involved with early-stage investing in pursuit of exits. By adopting an anticipatory and adaptive approach to risk mitigation, they go beyond traditional reactive mechanisms.

Risk Awareness

Angel investing is inherently fraught with uncertainty, balancing the potential for significant rewards against substantial risks. The literature consistently highlights key risk factors in early-stage ventures, including market volatility, management quality and product viability (Chaplinsky &Mukherjee, 2016; Kerr, Lerner & Schoar, 2014; Mason et al., 2019). This angel group demonstrates a nuanced understanding of these risks, with their approach

emphasizing human capital as a critical factor in mitigating informational asymmetry typical in startups.

Member A4 captures the essence of risk in angel investing: “It really depends on the market, and the quality of the companies we go through.” A4's comments on management issues, particularly in research-founded companies, highlight a key concern:

> “That's a problem in many of these research-founded companies that they don't have good management. I mean, they're great researchers and they are great with certain things, but they're not great at running companies. Just no. So that's what huge difference here and it was seen.”

A5 outlines a similar observation:

> ”It's interesting because if, and I think that's one of the things that can actually hamper positive development of these startups, it is that you have people who are so emotionally involved in what they have created that they cannot sort of see it, uh, with an objective eye, they do not necessarily understand the commercial side of things, and they did not. So they are sort of in love with their own invention, which means they cannot see clearly, you know, when it's not good enough as a product.”

The risks involved in early-stage ventures have been well documented in the extant literature (Wessendorf et al., 2019). The members of this group display an understanding of such risks and are actively adapting their strategies in relation to the specifics of a particular company. Such an emphasis on human capital aligns with literature, which highlights the pivotal role of leadership in influencing a venture’s trajectory (Triebel et al., 2018; Collewaert, 2012).

Furthering this discussion, Member A1 emphasizes the value of experienced leadership in mitigating startup risks:

> “In terms of Company 1, I mean, it was convincing because they are senior entrepreneurs... it's more like a, let's call it closer to a traditional company. Not a whitepaper, deeptech startup with very high valuation multiples”

This preference for seasoned entrepreneurs, resonates with the understanding that experienced management is vital in offsetting the inherent risks of startups (Landström, 1998; Falik et al., 2016). This approach reflects an understanding of the unique challenges faced by startups, including informational asymmetries, limited access to capital and higher transaction costs (Jensen,

2002; Ibrahim, 2008; Berger & Udell, 1998; Titman and Wessels, 1988; Wald, 1999).

To effectively identify and evaluate risks, the angel group employs a contextual version of sensing ability, leveraging their collective experience to discern underlying issues and prospects that may not be immediately evident from standard due diligence practices. This approach is illustrated by A4's reflections on a company's history and leadership:

> "It was a company that had been founded and then it had sort of never really been taking off. There have been some problems, I think, not something that we saw as anything. We thought it was something that could be solved really. After looking through it, I thought that it was probably more there being some sort of issues with earlier CEO, or owners, I think."

A3 further elaborates on this approach:

> "You know, in the early days of a startup, it's like you're trying to read a book where half the pages are blank. You can't just rely on what's already written - the financials, the metrics, they're just not there yet. So, for us, it's about reading between the lines. We look at the team, their drive, their vision. It's about feeling the potential in the room, you know?"

The experience of the angel group that enables this is built on integrating non-explicit, experiential insights with formal analysis (Polanyi, 1966), enabling them to effectively sense underlying issues and prospects that may not be immediately evident from product or service analysis alone. The angel group uses their collective wisdom, to employ a contextual version of sensing ability. This approach is not merely about evaluating what is, but discerning what could be, necessitating a keen insight into the nascent dynamics of a startup.

Legal and Financial Risk Management

The angel group's risk mitigation strategy focuses on two key areas: legal vigilance and financial foresight. By proactively addressing potential legal and financial risks, the group aims to safeguard their investments and position their portfolio companies for successful exits, employing a 'seizing' capability (Teece et al., 2007).

In the context of legal vigilance, the group prioritizes the legal soundness of their investments, even if it means forgoing potentially lucrative opportunities. As A4 shares:

> "We have actually turned down a few really interesting investments because there have been really bad contracts. Great ideas, but it's not clear on the IP side, and this can have big problems later with the product, licensing and so on."

The angel group's approach to legal risk management reflects an understanding that unaddressed legal challenges can lead to significant financial and reputational costs (Bagley, 2008). By incorporating legal vigilance into their investment strategy, the group actively employs this mechanism as a crucial aspect of their 'seizing' capability, guiding them to choose investments that are legally robust and financially promising. As A2 states:

> "We really look at it from a 'sleep well at night' perspective. When you're as close to your investments as we are, you think more about what's going to be around, and last. So, we are very careful about the legalities of it now. It's non-negotiable. We focus on making sure everything works from the ground up."

This focus on long-term value creation contrasts with venture capital funds, which are often criticized for exhibiting short-term opportunism to inflate portfolio returns (Khanin & Turel, 2012). However, in the case of angel groups, the scenario is different. Since capital is internally generated and the companies are directly or indirectly owned by the angel group members themselves, the motivation to chase short-term gains is mitigated (Bonini & Capizzi, 2018). Angel groups prioritize long-term value over short-term gains due to their direct financial and operational involvement in portfolio companies. This intrinsic alignment of interests fosters a stewardship mentality, emphasizing sustainable growth.

Similarly, the group's approach to financial risk management integrates data-driven models with market insights, embodying a synthesis of analytical rigour and contextual understanding. As A4 states:

> "We have a member, and some other contacts that know about this stuff very well, and they use data models and such to understand the valuations. But we also rely on the market insights from each of us. We are an experienced group, and we have dealt with risk before. So it's a blend, you could say."

A5 further mentions:

> "We also started to conduct 'stress tests' of sorts, scenario planning for various types of risk - not just financial, but operational, reputational and legal too.

> These tests help us to prepare for unforeseen events and assess how they might impact our exit strategies."

The angel group's blending of data models with market insights could suggest a contextual interpretation of sensing capability, as the group's approach challenges traditional views (Zacharakis & Meyer, 2000) by emphasizing the importance of experiential knowledge in sensing, which is rooted in data models that are continually tweaked and bolstered by interactions with the market.

Theoretically, this approach can be analyzed through both the Resource-Based View (RBV) and the Dynamic Capabilities View (DCV). The RBV is reflected in the utilization of internal resources (individual expertise in the form of data models, collective wisdom in the form of market insights and utilization of network to consult experts) to take effective investment decisions. The group's use of scenario planning and stress tests represents sensing, not just as a reactive analysis but as anticipatory intelligence. This approach suggests a shift in sensing from solely recognizing current market conditions to proactively forecasting and preparing for future market dynamics. It highlights an advanced level of sensing that integrates foresight and strategic planning. This evolved approach to sensing reveals that the angel group is going beyond traditional risk assessment methods. By incorporating scenario planning, they are considering a broader range of potential outcomes, including those that might be overlooked in standard analyses. This suggests a more comprehensive and forward-looking approach to understanding startups' viability and resilience.

Adaptability of risk management practices

The angel group's risk management practices exhibit a high degree of adaptability, enabling them to recalibrate strategies in response to market shifts. This agility seems to be a critical component of their dynamic risk management capability, as evidenced by A1's observation: "The share price for this company, it was highly volatile at that time. So, our strategy had to be nimble." The group's emphasis on proactive anticipation and preparation for market changes, rather than mere reaction, is a key facet of this dynamic capability (Eisenhardt & Martin, 2000).

A4's recollection of the share price volatility showcases the group's forward-looking approach:

> “This share price went up many times. And then they did a split one to four. So it must have been down because of that. Then it went up many times again. So it was like a crazy development.”

This proactive stance sets them apart from individual angels, who often rely on more reactive, ad hoc risk management approaches (Wiltbank et al., 2009), and aligns them more closely with the systematic, forward-looking practices of venture capital firms (Kaplan & Strömberg, 2004). However, the group's adaptability is not merely a mimicry of venture capital practices, but rather a unique manifestation of their ‘hybrid’ nature, blending the agility of individual angels with the structured approach of venture capital.

Moreover, the group's commitment to continuous learning reflects a crucial element of the transformation component of dynamic capabilities (Zollo & Winter, 2002). As A1 states,

“We also learn a lot, and we keep learning as we come across new companies,” goes beyond mere information acquisition. Similarly, A5 states:

> (On the run up to the IPO) “So we decided against that and went for half the sum. Okay. And looking in hindsight, you could say that that was the wrong decision.”

These quotes illustrate an ongoing process of assimilating experiences and insights, which are then integrated into evolving strategic frameworks.

Furthermore, the group's adaptability is complemented by a disciplined, methodical approach in evaluating risks across several investments, reflecting a balance between harnessing established resources and exploring new opportunities. As A1 notes, "So, to me and the rest, there was a lot of learning... some learnings are expensive," and A5 recounts:

> “You know, after what happened, we really had to take a step back and think hard about all of this. We realized that our job isn’t done after we write the cheque. No, that's just the beginning. We have to keep our eyes open all the time, really keep track of what’s happening inside these companies we invest in. So we asked ourselves, how can we get better at this?”

These experiences, costly or not, are integral to the group’s evolving playbook. This cycle of experiencing setbacks, reflecting upon them, conceptualizing lessons and applying these in new contexts ensures that their methodologies remain responsive to the fluctuations of the startup environment (Kolb et al., 2014). As A5 further states:

> "We started noting these down, discussing these events during meetings every time almost, and applying these learnings to the companies again."

This approach, as Kolb suggests, transforms direct experiences into structured knowledge, which then forms the basis for continuous adaptation and learning (Teece, 2014b; Zahra, Sapienza & Davidsson, 2006).

This approach to learning and adaptation, which transforms direct experiences into structured knowledge (Teece, 2014b; Zahra, Sapienza & Davidsson, 2006), is particularly relevant for hybrid angel groups, as they seek to build and refine their risk management practices in the absence of established templates. The group's strategic adaptability, as demonstrated by A1, A4, and A5, reflects a collective wisdom that appreciates the balance between structure and flexibility in what seems to be a newer avenue for hybrid angel groups, such as this one.

The angel group's risk management practices, characterized by their proactive stance, commitment to continuous learning, disciplined approach and opportunity-seeking mindset, constitute a critical dimension of this dynamic capability. This capability is particularly significant for hybrid angel groups, as it enables them to effectively bridge the gap between the agility of individual angels and the structured approach of venture capital firms, while navigating the uncertainties of early-stage investing. Venture capital funds institute stringent clauses across contracts, including control rights, voting rights, cash flow right and liquidity rights (Hellmann, 1998), and manage their risk at a portfolio level (Buchner et al., 2017), which includes making investments across several companies operating in the same industry or even product (Norton & Tenenbaum, 1993; Gao, 2011) and often those that are competitors as well. This angel group maintains a more personalized approach. They build a portfolio of companies known to them at a personal level, combining empirical data with experiential knowledge to sense and mitigate risks. The group's proximity to their portfolio companies allows for swift contextual decision-making, maintaining close relationships while effectively managing risks - a contrast to the more detached approach of venture capital firms (Wiltbank et al., 2009).

The integration of data-driven models and systematic risk evaluation distinguishes this group from individual angels, who typically rely on intuition and personal networks for risk assessment (Huang & Pearce, 2015). This more structured approach enables more informed decision-making, while still retaining the agility characteristic of angel investors. A key differentiator in the group's dynamic capability is their proactive, opportunity-seeking

approach to risk management. This stands in contrast to the often defensive, threat-focused practices of individual angels (Mason et al., 2019). By actively shaping the entrepreneurial ecosystem in which they operate, the group not only navigates uncertainties but also influences the landscape of early-stage investing.

8.4 Network Utilization

In the realm of angel investing, networks function as an important resource, pivotal in shaping successful exit strategies (Bonini et al., 2018). This angel group utilizes their network as more than just a repository of contacts; it is transformed into a strategic asset that bolsters their operations at multiple levels. The following exploration aims to cohesively synthesize various facets of network utilization.

Using the network for investment support

The angel group's network serves as a comprehensive support system, playing a pivotal role in its investment strategy and operations. As A1 emphasizes:

> "We also have a big network, which actually I would say is our biggest strength. The network makes it all possible. When we have a question, or a problem, or we'd like to make investments, there's always someone we could consult from the network."

The network's value stems not just from its size, but from the depth and caliber of the relationships it fosters and the diversity of expertise it offers. One of the key functions of the network is sourcing investment opportunities. A1 notes: "Companies come to us through our network, often introduced by other investors". This highlights the network's instrumental role in maintaining a consistent and high-quality deal flow for the angel group. The group's strategic position within its ecosystem, involving collaborations with incubators and venture capitalists, provides an implicit vetting layer for potential investments. As A3 explains:

> "We're in this ecosystem, with good connections to incubators and VCs, that are very good with finding deals".

These institutions dedicate significant resources to maintaining high-quality deal flow (Kelly & Hay, 2000), serving as a preliminary filter for the angel group (Bajo et al., 2020).

To maintain and strengthen these valuable relationships, the angel group engages in informal interactions and cultural activities with key players in its network. A4 emphasizes the importance of these interactions in building trust and facilitating information sharing:

> "It can be over dinners, or sometimes for cultural activities, for example, once a year we have this thing, in the south of Sweden, we eat eel. Yeah. So there's this, like it, because it's culturally, it was in the in the autumn.(….) It's important to keep the contact."

The angel group's network interactions are a significant source of social capital, characterized by a diversity of expertise that offers informational advantages (Nahapiet & Ghoshal, 1998). These relationships foster a flow of diverse perspectives and expertise, crucial for the group's evaluation of investment opportunities. This network, therefore, plays a crucial role in enhancing the group's capability to effectively engage in what Teece (2007) describes as "sensing." Their embedded position within the network allows the group to remain attuned to market dynamics and potential investment prospects through the continuous exchange of information and insights with network members.

Networks for information acquisition and resource mobilization

The angel group's network utilization strategy extends beyond sourcing investment opportunities to actively engaging with company founders, regardless of their current investment status. By nurturing these connections, the group gains access to valuable tacit knowledge and mitigates the risks associated with information asymmetry (Bammens & Collewaert, 2014). Trust and relational capital, nurtured through networks, not only streamline decision-making but also reflect the relational view in strategic management. This perspective posits that competitive advantages arise from effectively managing and leveraging inter-organizational relationships (Dyer & Singh, 1998). A5's involvement in a venture initiated by a known contact exemplifies the importance of trust and relational capital in the angel group's decision-making process: "I was intrigued by the product, and the CEO, a former colleague, approached me for involvement." The angel group's reliance on these relationships provides them with in-depth, tacit knowledge, insights that are

gained through prior interactions. Such depth of insight is often inaccessible to outside investors. A1 comments:

> "When we have a question, or a problem, or we'd like to make investments, there's always someone we could consult from the network (…) these pre-IPO investors often come with their own networks and expertise."

The group's ability to tap into this tacit knowledge via their network exemplifies the practical application of social capital in acquiring critical information that goes beyond what is available through conventional channels, such as market reports, industry analyses, financial statements and public databases. Moreover, these connections facilitate a more collaborative and open resource exchange, that can boost operational efficiency and effectiveness (Smedlund, 2008; Hochberg et al., 2007).

In addition to information acquisition, the angel group strategically leverages their network for capital mobilization and resource allocation, particularly in the pursuit of pre-IPO funding. A1 highlights: "Some angels have agreements with funds that match their investment, a cost-efficient way to direct early-stage venture capital", illustrating the role of networks as active conduits for capital mobilization. A1 adds further context by explaining:

> "These pre-IPO investors often come with their own networks and expertise, which can be very important in the IPO process. They bring in new perspectives and can help guide the company through to going public."

By harnessing network collaboration for additional funding, the group extends its financial capabilities beyond its immediate scope, setting them up to seize opportunities that would otherwise be unattainable (Teece, 2007).

The angel group's proactive stance in orchestrating resources sourced from their network is further corroborated by A1:

> "Business angels can have an agreement with some funds in a way that will double up their direct investment in the company. And I think that is a very cost-efficient way to actually direct governmental venture capital in early stage."

The angel group's utilization of its network is a departure towards an orchestration of resources sourced from the network. They strategically harness existing network relationships to broaden their financial capabilities and operational reach, thereby facilitating their investment activities. By

tapping into matching fund agreements and orchestrating resources beyond their immediate sphere, the group 'seizes' opportunities, that would otherwise be unattainable through their ordinary capabilities alone.

Networks for valuation and exit strategies

The angel group's utilization of networks extends beyond information acquisition and resource mobilization to strategically enhancing valuation and exit strategies. By nurturing targeted relationships with trusted partners, such as incubators and accelerators, the group gains access to deeper market insights and identifies potential investment exits with greater precision. As A5 explains:

> "We rely on trusted partners, like the incubators I am connected with, and the accelerator ties of Member 2 and Member 4, particularly in the Skåne region."

These dynamic relationships serve as platforms for the angel group to engage in the 'sensing' aspect of dynamic capabilities, enabling them to identify emerging trends and lucrative investment opportunities. The group's emphasis on enhancing deal flow and refining valuation processes is underscored by A1's insight: "Our continuous deal flow comes from being an active part of a network." Additionally, A4's observation: "Our members and contacts provide expertise in valuations using data models." The aggregation of varied insights through the network transcends individual knowledge, enabling the group to adjust its evaluation and decision-making processes in response to the dynamic nature of startup ecosystems (Wessendorf et al., 2019).

The network's provision of diverse viewpoints and specialized expertise allows the group to adjust its evaluation and decision-making processes, keeping pace with the dynamic nature of startup ecosystems. A5's elaboration on the valuation process of a medtech company exemplifies the practical application of network utilization:

> "Actually, when we were evaluating this medtech company, and honestly, the whole valuation process was a bit of a head-scratcher. It is a great industry, but a bit technical. So, we decided to tap into our network, bringing in some experts with knowledge in this area. It wasn't about the numbers alone; we were trying to get a grip on the startup's real potential and scale. We had some ideas of our own, but of course, when you talk to someone who really knows their game, it gives you more. We started seeing its future possibilities in a different way. And also the risks."

This approach reflects the group's ability to dynamically adapt and reconfigure their resources and strategies, showcasing the intrinsic value of network optimization in facilitating well-informed decision-making (Bonini et al., 2018; Lahti & Keinonen, 2016; Jääskelainen & Maula, 2014).

The angel group's strategic application of networks extends to exit planning, as highlighted by A3:

> "Having industry-specific contacts can open doors to potential trade sale opportunities. It's almost compulsory in a way. If you aren't in the network, even if your company is very good, opportunities just don't come by as much".

This emphasizes the value of industry-aligned networks in identifying and exploring viable exit routes. Furthermore, the group leverages expertise from their networks, particularly in the execution of IPOs, as A3 notes: "Our team, including a CFO experienced in listings and an M&A lawyer, offers very valuable knowledge on getting exits." This reliance on network expertise showcases the group's capacity to convert insights into actionable strategies, actively reconfiguring informational and skill-based assets to guide portfolio companies through critical milestones.

The angel group's network utilization practices for valuation and exit strategies demonstrates their ability to sense, seize and reconfigure resources in response to the evolving investment landscape (Teece et al., 1997). By strategically leveraging targeted network ties, the group enhances its sensing capabilities, identifying emerging trends and opportunities. The assimilation of diverse expertise through the network enables the group to seize these opportunities by refining valuation processes and making well-informed investment decisions. Finally, the group's ability to draw on specific network expertise and convert insights into actionable strategies reflects their capacity to reconfigure resources, particularly in the context of guiding portfolio companies through IPOs and other exit routes.

8.5 Relational Dynamics

The relational dynamics within angel groups are pivotal in shaping their culture, decision-making processes, and ultimately, their investment success. The provided quotes offer insights that present an interplay of trust, mutual respect, personality congruence and collective experience by the members. This discussion aims to weave these insights into a comprehensive narrative,

showcasing how each aspect of relational dynamics supports and reinforces the others, forming the backbone of the group's culture and operational ethos, which facilitates their progression towards exit strategies.

Trust and Mutual Respect as Cultural Cornerstones

Trust and mutual respect serve as cultural cornerstones within the angel group, fostering a collaborative environment that is essential for collective decision-making and successful angel investing. This high-trust atmosphere cultivates open dialogue, encourages diverse perspectives and facilitates shared risk-taking. As A3 emphasizes, the group's culture is characterized by a deep sense of trust and respect, which is built through shared experiences and mutual understanding:

> A3: "I would say more trust in this group than in other groups I worked in before. Some didn't have any really. Because I think that even though that people here also go for their own investments, but I think that it is... It's a really... Yeah, I don't know why it's different. It is, I really trust these ones when they come forth with investments and research. Especially this person with the boat investment. I really trust that person a lot. And the knowledge and also I think that there is no prestige whatsoever within the team. No ego, or pride among the members, which is very rare. Okay. So that's the team culture. Yes. It's really about, I think we sometimes speak about that actually. The money we are investing, we earn them by working hard all of us. It's not like that we had all that money or inherited it. For all of us, it is from working hard and trying to invest them in the right way. And I think that goes for everyone. That makes it, that makes it also having respect in the end. Lots of mutual respect."

Similarly, A4 discusses the trust in each other's skill and competence, which makes their working together quite effective: "We know each other so well now that we know that some things, you don't even have to mention to them, because they know that it's taken care of or not."

The quotes from A3 and A4 underscore a pivotal aspect of the angel group's dynamics: the implicit trust and tacit understanding among its members. This implicit trust can be considered a form of tacit knowledge, encompassing intuitions and unspoken understandings, that is cultivated over time through shared experiences and deep interpersonal relationships (Nonaka & Takeuchi, 2007). It enables the group to operate efficiently and effectively, often without the need for explicit communication or confirmation.

The group's high-trust environment reinforces their ability to sense and act upon opportunities. The absence of ego and pride, as highlighted by A3,

empowers members to contribute their expertise and insights openly, thereby bolstering the group's 'seizing' capability. In such an atmosphere, diverse perspectives are not only welcomed but are integral to the decision-making process (Rousseau et al., 1998), emphasizing the importance of learning from varied experiences and viewpoints to adapt and evolve continually.

Challenges in Cultural Replication

The angel group's unique culture, characterized by trust, mutual respect and interpersonal compatibility, presents challenges when it comes to replicating this dynamic with new members. The difficulty in maintaining the group's relational fabric underscores the importance of cultural fit in preserving the harmony and efficiency of the group.

A1's account of the experience with Ex-Members 1 and 2 illustrates the potential for friction when new dynamics are introduced:

> A1: "And then we added two more members "Ex-Member 1" and "Ex-Member 2". But with member 8, it did not work. It was a lot of, you know, friction and conflicts. And we had a quite good working relation before she joined because we knew each other and I mean, it worked, but somehow it just did not work having her on board, and she felt that herself as well. So we came to an agreement together with her, and she exited. We bought her shares for the same value as she had invested, well, you know, the same that she had investing for, and then became the seven members."

This narrative highlights the significance of personality and value alignment in the group, suggesting that the group's success hinges not just on financial acumen but also on interpersonal compatibility. The challenges in integrating new members into the group's culture have led to a reluctance to take on additional members, as A1 notes:

> "So that is really why we have been pretty reluctant to take in some more, because of course we are approached by other people that would like to be a part of our group, but we find it a bit difficult as well because it has taken time to come to where we are."

The challenges in integrating new members into the group's culture, as experienced with Ex-Members 1 & 2, highlight the importance of member selection in maintaining group dynamics. This resonates with research on team composition, suggesting that team performance is influenced not only by the individual capabilities of team members, but also by how well team members work together (Hirschfeld et al., 2006; Bell, 2007).

Fostering a Team-Oriented Culture

The angel group's deliberate effort to foster a team-oriented culture, steeped in trust, mutual respect and shared goals, has significant implications for the group's psychological safety, open-mindedness and boundary-spanning behaviours. The accounts from A2 and A1 reveal the importance of social bonding activities and inclusive decision-making processes in cultivating this culture. As A2 notes:

> "We have decided that to include some more in the core of, of our six people. And then yeah, it's the personality that is important, that we can trust it all. We should have fun, we should have nice dinners with nice wine. And then we can do the investment. That's also part of the culture."

This emphasis on social bonding and personality fit highlights the group's recognition of the importance of strong interpersonal relationships in fostering trust and cohesion.

Similarly, A1 emphasizes the importance of inclusive decision-making processes:

> "We usually always recorded the investment pitch and presentation so you, everyone have seen it. But that is more like how we do it in our angel group that we do it together, and everyone should feel safe. Feeling all that, we raise different questions, because we are different people, we have different backgrounds, and we see different opportunities and risks, of course."

The group's practices may cultivate psychological safety, thereby facilitating open-mindedness and boundary-spanning behaviours critical for adaptation and innovation (Harvey et al., 2019). Psychological safety fosters an environment where members feel safe to express diverse opinions, take risks and engage in creative problem-solving without fear of negative repercussions. This emergent property is crucial for navigating the complexities of the investment landscape, where sensing opportunities and risks often requires integrating disparate perspectives and expertise.

Furthermore, the group's collective intelligence, stemming from the varied backgrounds and expertise of its members, can be seen as a direct outcome of the group's learning orientation. As Harvey et al. (2019) suggest, a learning orientation promotes an openness to new information and experiences, which is crucial for the angel group's ability to adapt and thrive in dynamic markets. This orientation, coupled with the group's emphasis on quality communication

and shared experiences, not only enriches their market analysis but also enhances their agility in decision-making.

Regular Communication and Shared Experiences

Regular communication and shared cultural activities play a crucial role in building the angel group's cohesiveness and collective identity, building the foundation for effective collaboration and decision-making. The accounts from A4 and A1 highlight the importance of these interactions in fostering trust, mutual understanding and aligned interests among the group members. As A4 mentions:

> "It can be over dinners, or sometimes for cultural activities, for example, once a year we have this thing, in the south of Sweden, we eat eel. Yeah. So there's this, like it, because it's culturally, it was in the in the autumn (…) if I have an interesting case, I might call a few of them, or might call them just to discuss recent events and what's happening and what they think about different things is."

These regular interactions, both formal and informal, contribute to the group's cohesiveness by providing opportunities for members to connect, share ideas and build relationships. The annual eel-eating event in southern Sweden, as described by A4, serves as a symbolic ritual that reinforces shared values and norms (Fukuyama, 2001). Such shared cultural activities go beyond mere social gatherings, they play a significant role in nurturing a sense of belonging and collective identity among the group members. By participating in these rituals, members reaffirm their commitment to the group and its shared goals, strengthening the social bonds that underpin effective collaboration.

In addition to shared cultural experiences, regular communication about market events and investment opportunities is crucial for the group's ability to process information and make decisions effectively. A1 shares an example of this in the context of a company undergoing an IPO:

> "We are just doing a share issue with that company, and here I listen to the entrepreneurs, and they have some material related to the listing, I make a recommendation. And then I it send to all the members, and then I recommended that their evaluation is high, but I thought we should at least take a pro rata share of the listing. I didn't think we should take so much more of a share given the higher valuation. And this way, giving some pros and cons about why we should do that. And then they gave me their opinions like "Okay, sounds good. I'm good to invest like this." That's how it is."

This account illustrates how regular communication and open dialogue enable the group to navigate complex investment decisions collectively. By sharing information, insights, and recommendations, members can leverage their collective intelligence to make more informed and effective decisions. This is particularly important in high-stakes scenarios, such as IPOs, where the group's ability to collaborate and comply with legal and regulatory requirements is critical to their success.

Trust in Judgment and Expertise

The angel group's reliance on each other's judgments and expertise is a manifestation of their collective intelligence approach to decision-making, which has significant implications for their ability to navigate the complexities and uncertainties of angel investing. By leveraging the diverse expertise and insights of its members, the group is able to make more well-informed and comprehensive investment decisions.

A3's statement encapsulates the group's usage of collective intelligence in their decision-making processes:

> "We ask out for a report by this time. It could also be in a company where we trusted a member's knowledge in our group, like in a medtech company, which needs peculiar expertise. We thought someone is bringing it into the group. And we thought this is going to be a really good product that this is going to be and we like the team."

This example highlights the group's recognition of the value of specialized knowledge, particularly in sectors like medtech, and their willingness to rely on the expertise of individual members to inform their collective decision-making. Collective intelligence refers to the enhanced capacity generated when a group combines diverse individual skills and knowledge (Malone & Bernstein, 2022).

A4's observation further illustrates the practical implications of this approach:

> "I know that they have a little bit different profile from me. So, if I have sort of a question, maybe concerning a certain type of company or a certain type of situation, maybe then I can call one of them that is more, that has experience before."

By acknowledging and utilizing the varied profiles and experiences within the group, each member can access a broad spectrum of insights and expertise,

enriching the decision-making process and ensuring a more comprehensive evaluation of potential investments (Woolley et al., 2010).

The trust in each other's judgments and reliance on distributed expertise within the group showcase a collective approach to decision-making that allows the group to effectively capitalize on opportunities by pooling their diverse knowledge and expertise (Malone & Bernstein, 2022). This integration of diverse knowledge not only enriches the depth of their analysis but also fosters a dynamic and resilient decision-making environment within the group, conducive to continuous learning and adaptation.

Trust in Entrepreneurs

The angel group's high level of trust in the entrepreneurs they invest in is a strategic alignment with their internal culture, characterized by mutual respect and an absence of ego. This trust plays a vital role in creating an environment conducive to the growth and success of the startups they support. As A1 states:

> "We have a very high trust in people. And most people that we meet, I mean, the founders are people that are doing absolutely their best to do the right thing. And, and then we all know we're doing a business adventure, it may not succeed. But I mean, that's the name of the game."

This quote illustrates the group's understanding of the entrepreneurial process and their acknowledgment of the inherent risks and uncertainties of startup ventures. By exhibiting trust in entrepreneurs, the angel group instils a sense of confidence and support in the founders, encouraging them to take necessary risks, innovate and pursue aggressive growth strategies (Bammens & Collewaert, 2014; Ding et al., 2015).

The trust placed in entrepreneurs by the angel group reflects a strategic alignment with their internal culture, as described by A3: "I would say more trust in this group than in other groups I worked before (…) No ego, or pride among the members, which is very rare." This culture of trust and openness within the group extends to their interactions with entrepreneurs, fostering transparent communication and collaboration (Zacharakis et al., 2007). Such trust-based relationships enable the angel group to collaborate more effectively with entrepreneurs in adapting and pivoting strategies in response to market changes or internal challenges.

Moreover, the trust-based culture within the angel group creates a fertile ground for collective learning (Cohen & Levinthal, 1990), allowing members to openly share insights and experiences, thereby enhancing their collective

ability to assimilate and exploit new knowledge. This open exchange is crucial for 'sensing' market trends and opportunities, as it positions the angel group to gain a more complete understanding of the startup ecosystem and potential investment prospects.

The angel group's relational dynamics, characterized by trust, mutual respect and collective experience, can be understood as a dynamic capability that has evolved in response to their position as a hybrid angel group. The development of this dynamic capability could explain the group's effectiveness in functioning and securing exits. The interplay of trust-based relationships and collective intelligence allows this group to occupy a unique space in the investor spectrum, where trust fosters open communication and risk-taking, while diverse expertise enables comprehensive evaluation of opportunities - a balance that both venture capital funds and individual angels often struggle to achieve (Huang & Pearce, 2015; Mason et al., 2019). Venture capital funds, despite their structured approaches, may lack the personal engagement and agility in decision-making that characterize this angel group (Wiltbank et al., 2009). Conversely, individual angels, while potentially more agile, often lack the collective knowledge and systematic approach to risk evaluation demonstrated by this group (Bonini et al., 2018).

This angel group strikes a balance between these extremes by cultivating a culture of psychological safety that encourages open-mindedness and boundary-spanning behaviours, while also leveraging their collective expertise for informed decision-making (Harvey et al., 2019). By extending this trust-based culture to their interactions with entrepreneurs, the group creates an environment conducive to portfolio company growth and adaptation. This approach not only capitalizes on the group's internal dynamics but also fosters a deeper, more collaborative relationship with the ventures they support, potentially leading to more successful outcomes (Bammens & Collewaert, 2014).

8.6 Discussion of the Micro Level Analysis

This case study examines an angel group that exemplifies the characteristics of hybrid angel groups, representing what Mason et al. (2019) described as a 'transitory' phase. However, my quantitative analysis suggests that this hybrid form may be more permanent than previously thought, with this group belonging to a distinct cluster of angel groups (Cluster 1) that exhibit a stable

set of hybrid attributes. It provides insights into how such groups utilize and reconfigure their resources to steer portfolio companies toward IPOs. The four key aspects identified - namely, the balance between formality and flexibility in decision-making, risk mitigation, relational dynamics and network utilization - emerge as the dynamic capabilities this angel group employs in the pursuit of exit strategies in volatile environments. The study reveals that the group's operational approach is adaptive, socially integrated and relies on the collective expertise of its members. The implications of these findings introduce a novel perspective on resource utilization and renewal in investment entities like angel groups such as the one studied, which are non-hierarchical, do not offer products or services and operate in rapidly changing and inherently unpredictable environments. The inward-looking view, adopted through the lens of the RBV, places the resources of this angel group in focus, in particular the resources brought in by the members which can be important for securing exits. However, achieving exits has been recognized to be quite difficult (Botelho et al., 2021) due to the uncertain investment climate. The dynamic capabilities developed by this angel group can be seen as an example for similar entities operating within the realm of early-stage financing. This study shows how leveraging a combination of internal resources and strategic flexibility could help navigate the challenges and uncertainties inherent in this sector. When considering these findings, it is crucial to understand that the efficacy of such dynamic capabilities lies in their ability to be contextually adapted. Angel groups, though similar in their fundamental structure, exhibit significant variations in their operational dynamics, member composition and strategic orientations, as discussed in Chapter 7. In this transitional era of angel investing, marked by increasing heterogeneity, the dynamic capabilities developed by a particular angel group provide an example for both existing and emerging groups. This case suggests that strategic but flexible integration of internal resources can be crucial for the capacity of an angel group to navigate the volatile landscape of early-stage financing. As angel groups evolve in their structural and operational dynamics, themes such as interplay of decision-making, risk management, relational dynamics and network utilization can become foundational for strategic adaptation, especially in securing successful exits. However, it is essential that they not only draw upon these capabilities but also tailor them to fit their unique contexts and resource bases. The insights gleaned from this segment of the study are presented below in the form of a conceptual model that emerged from the data, offering a clearer understanding of these complex dynamics.

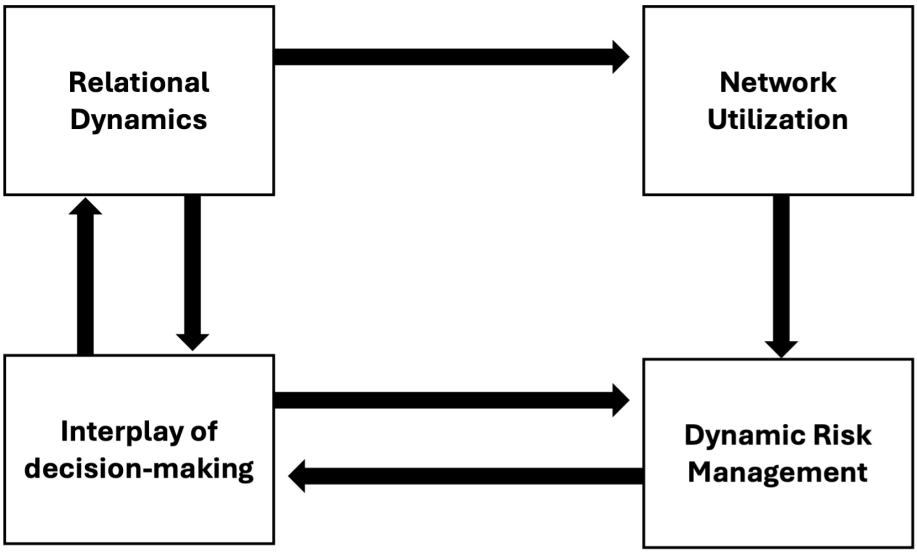


Figure 8:Conceptual Model of Theme Interaction

The conceptual model presents four dynamic capabilities (DCs), each pivotal for navigating the high-uncertainty environment that is characteristic of the journey to Initial Public Offerings (IPOs). In this figure, each dynamic capability is a distinct process (Eisenhardt & Martin, 2000) that includes routine and non-routine elements, integral to the group's ability to integrate, build and reconfigure their resources in response to an uncertain investment landscape (Teece et al., 1997). Furthermore, this model also illustrates the interconnected nature of these dynamic capabilities, where each DC is not in isolation, but is interrelated with other DCs by reinforcing and being reinforced. This is indicated through the series of feedback loops illustrated in the model, where the outcomes of each capability both influences and is influenced by the others. The reinforcing feedback loops in the model suggest a systemic interaction where the successful application of one dynamic capability could enhance the effectiveness of others. For example, Dynamic Risk Management is informed by the Interplay of Decision-Making and, in turn, contributes to it by providing risk assessment feedback. This shapes future decision-making criteria and thresholds. In this manner, the capabilities co-evolve, as the learning and refinements in one area inform adjustments and enhancements in the others. This makes these dynamic capabilities become part of a recursive process, wherein the output of one capability feeds into the input of another, creating a continuous loop of strategic reconfiguration (Zollo

& Winter, 2002). This systemic view further posits that the whole is greater than the sum of its parts due to the interactions and interdependencies among those parts (Anderson, 1999). Therefore, this visualization can be viewed as a microcosm of dynamic capabilities in practice, where the system is continually refined, embodying the notion that angel groups are dynamic entities that must constantly evolve through the interplay of utilizing internal resources and reconfiguring them.

8.6.1 Interplay of Decision-Making

At the heart of this framework lies the combination of formal structure and flexible decision-making. This combination reflects a response to the need for both stability and adaptability in fluctuating market conditions. The need for stability is fulfilled through the implementation of a formal decision-making framework that offers consistency, while adaptability is instead fulfilled by designing this formal framework to allow sufficient responsiveness within it to face volatile contexts. This duality is a manifestation of organic coordination within an overarching mechanistic coordination (Burns & Stalker, 1961) which allows the angel group to maintain coherence in its strategy while being agile enough to adapt to changing circumstances, a critical factor in timing exits and sensing market shifts. The empirical findings suggest that this ambidexterity is not an isolated process but is deeply embedded in the group's relational fabric. High-trust environments amplify the effectiveness of decision-making (Aulakh, Kotabe & Sahay, 1997), enriching the group's sensing abilities (Blomqvist & Seppänen, 2003). The relational dynamics within the group, characterized by mutual understanding and shared experiences, contribute to a collective intelligence that permeates the decision-making process (Prusak & Cohen, 2001). This interaction between decision-making and relational dynamics forms a virtuous cycle. Effective decision-making grounded in trust reinforces the group’s internal cohesion. In turn, this strengthened cohesion further enhances their capability to sense and respond to opportunities and threats in the market. This emergent dynamic capability is a manifestation of the group's ability to not only adapt to changing environments but also to proactively shape their strategies in response to these changes, illustrating the concept of dynamic capabilities in action.

8.6.2 Network Utilization as a Conduit for Seizing Opportunities

Following the established synergy between decision-making flexibility and relational dynamics, the angel group's approach to network utilization emerges as a key aspect of their ability to seize opportunities. This facet of their framework highlights the group's strategic outreach, leveraging external collaborations and alliances to expand their informational reach and facilitate resource mobilization. Drawing from Augier and Teece's (2009) perspective on dynamic capabilities, the group's network utilization is not just the passive accumulation of contacts. Instead, it represents a strategic effort essential for accessing a diverse range of resources and insights. Building on this, the role of internal social capital becomes pivotal in the angel group's ability to effectively harness external networks. Drawing from the insights of Coleman (1988), the trust and mutual understanding fostered within the group extend their influence beyond internal dynamics to empower strategic external engagements. This internal social capital, characterized by strong relational ties, enhances the group's credibility and reliability in the eyes of external stakeholders, facilitating more fruitful collaborations and alliances. Such social capital is not only about building connections, but also about the effective exchange and utilization of knowledge within these networks (Nahapiet & Ghoshal, 1998). The angel group's internal trust and confidence translate into a heightened ability to absorb and apply diverse insights from their external networks, enriching their strategic decision-making and adaptability. Consequently, this interplay between internal social capital and external network engagement becomes a critical driver in the group's dynamic capability to seize market opportunities and navigate the complex investment landscape.

8.6.3 Risk Management Through Dynamic Reconfiguration

Risk management in high-uncertainty investment environments, influenced by both strategic decision-making and network utilization, is an inherent part of the angel group's approach and emerges as a dynamic capability. Their strategy for risk management, anticipatory and adaptive in nature, extends beyond mere response mechanisms. Drawing from Miller and Waller's (2003) work, it is seen as a proactive strategic process. This approach involves early identification of potential risks and the effective reconfiguration of strategies and resources to mitigate these risks. Insights from their extensive networks enable the group to adopt a proactive stance, anticipating and preparing for market shifts. The ongoing refinement of their risk mitigation strategies

reflects the characteristics of a learning organization, one that is capable of transforming challenges into strategic opportunities (Marquardt, 2011). By leveraging collaborations and partnerships through network utilization, the angel group can identify dysfunctional practices and prevent strategic blind spots, contributing to organizational learning (Mody, 1993; Teece et al., 1997). This continuous learning process is integral to the sustenance of the group's dynamic capabilities, equipping them to not only respond to emergent risks but also to anticipate and adapt to future market dynamics. The acquisition and diffusion of this inter-network knowledge through such practices may assist in the collection of new information that can provide the diversity needed to start building new competences (Zollo & Winter, 1999). These perspectives collectively strengthen the understanding of the angel group's risk mitigation strategies as dynamic and continuously evolving, underpinned by a blend of strategic foresight, informational advantage and learning.

8.6.4 The Integrative Nature of Dynamic Capabilities

In this model, dynamic capabilities instituted by this angel group are not seen as isolated competencies but as a cohesive network of processes. The angel group's ability to effectively sense, seize, and reconfigure (Teece et al., 2007) is woven into their decision-making flexibility, relational dynamics, network utilization, and risk mitigation strategies, with each process representing a distinct dynamic capability. This integration highlights how this angel group develops them through a combination of internal assets and external interactions, which reconfigure these assets in hand. Dynamic capabilities involve the constant adaptation and reconfiguration of resources and processes in response to changing environmental conditions (Barreto, 2010). Additionally, the role of relational dynamics and network utilization in fostering these capabilities resonates with how social capital and trust interact (Coleman, 1988; Son & Feng, 2019). The angel group's collective intelligence and internal trust form a foundation upon which dynamic capabilities are built and expanded, enabling the group to navigate complex investment landscapes.

Analyzing this through the Resource-Based View (RBV), the angel group’s approach is rooted in the effective management of its diverse resource base, encompassing financial, social and human capital (Landström, 1998; Mason & Harrison, 2016). Each member contributes a unique combination of these resources, thereby enriching the collective pool which is then strategically leveraged by the group. This diverse resource base is particularly crucial in the high-uncertainty environment of the IPO journey, marked by challenges such

as informational asymmetry, agency issues and market volatility (Berger & Udell, 2006). In this context, the angel group's development of dynamic capabilities is a response to optimize their resource base amidst these uncertainties. These capabilities enable the group to adapt and respond swiftly to market opportunities in pursuing a competitive rate of return and adding value to their portfolio companies. The group's dynamic capabilities, therefore, are not merely about resource accumulation but about the intelligent and agile deployment of these resources in a constantly changing market landscape. This approach includes abilities that Teece et al. (2007) conceptualize as sensing, seizing and reconfiguring, whose manifestations by this angel group have been discussed in this model. In synthesizing these empirical findings with the DCV and RBV frameworks, I present a conceptual model of how non-hierarchical, product and service agnostic and non-competitive investment firms may navigate the tumultuous waters of startup investing.

9. Mixed-Method Discussion and Contributions

9.1 Discussion and Contribution

In this research, I explore the transformation of angel investors within the early-stage financing landscape, focusing on the emergence of angel groups characterized by their pooled resources and the diverse expertise of their members (Mason and Harrison, 2016). Building upon the foundational insights of Mason et al. (2019) on the heterogeneity within angel groups—which is described as a shift from unstructured networks to formalized, managed groups, a theme also explored by Bonini et al. (2018), Carpentier and Suret (2015), and May (2002), among others—this study further advances the discourse. This study broadens the scope of current literature on angel groups by shifting attention from traditional topics such as investment performance metrics, gatekeeper roles, and investment criteria—areas primarily explored by Capizzi (2015), May (2002), and Carpentier & Suret (2015)—to focus on the exit strategies of angel groups. Therefore, it counters the prevailing narrative, which has often relegated exits to a peripheral role in the investment process, as seen in works by Harrison et al. (2016) and Kerr, Lerner, and Schoar (2014). It shows that, in contrast to individual angels, angel groups are strategically positioned to achieve successful exits, making exits a central component of their investment strategies. Furthermore, this study advances Botelho et al.'s (2021) argument by demonstrating that exits are often a primary motivator for investment decisions, depicting angel groups as proactive and strategic, rather than the reactive agents described in traditional views. It challenges assertions like those of Collewaert (2012, p. 755), who commented: "angel investor exit is often unplanned, and many angels do not have a clear exit route preference", and Mason et al. (2016), who suggested that "good investments will find their own exits." Contrary to these views, this study provides a fresh perspective that highlights the strategic acumen and intent of angel groups in creating favorable exit conditions. This narrative not

only complements but also enriches existing discussions by aligning with broader investment goals and market trends.

9.1.1 The Emergence of Hybrid Angel Groups

Central to this study is the concept of hybrid angel groups, extending prior research on the heterogeneity and professionalization of angel groups (Croce et al., 2017; Bonini et al., 2018; Mason et al., 2019). Hybrid angel groups combine elements of both traditional angel investing and formal venture capital. Unlike individual angels who rely primarily on personal networks and informal decision-making processes (Amatucci & Sohl, 2004; Antretter et al., 2020), hybrid angel groups exhibit a higher level of formalization combined with a distributed locus of decision making, resulting in well-defined exit strategies that provide a framework for operation while remaining open to adjustments based on the unfolding journey and evolving relationship with the investee company. Unlike venture capital funds that tend to focus on later-stage investments (Hellmann and Puri, 2002; Nanda et al., 2020), hybrid angel groups invest in earlier stages of a company's lifecycle. The distributed locus of decision making manifests in a collaborative approach.

The emergence of hybrid angel groups can be seen as a response to the changing dynamics and challenges of early-stage investing in recent years. As the costs of starting a business have decreased and the number of startups has proliferated, traditional venture capital firms have shifted their focus to later-stage investments, leaving a growing funding gap in the early stages (PitchBook & NVCA, 2021). At the same time, the increasing complexity and specialization of technology has made it more difficult for individual angels to effectively evaluate and support startups on their own (De Clercq et al., 2006; Dutta & Folta, 2016).

9.1.2 Macro Level Analysis: The Role of Financial Capital

In answering Mason et al.'s (2019) call, the quantitative analysis at the macro level underscores the pivotal role of financial capital in shaping formalization and locus of decision making. As angel groups accumulate greater financial resources, they face increased complexity and risk, necessitating the adoption of more mechanistic coordination to ensure strategic coherence and risk management (Mason and Botelho, 2016; Tenca et al., 2018). This shift can be interpreted as a strategic response to the complexities of managing larger, later-stage deals and broader portfolios, building upon the work of Goldman and

Strobl (2013) and Csaszar (2012) on investment firms, and Fulghieri and Sevilir (2009) on the venture capital context. All three studies suggest a strategic move towards more mechanistic practices to effectively manage the complexities of larger investments and intricate deal structures. This perspective aligns with Ramesh (2016) and Klein (2010), who argue that additional resources can enhance organizational capabilities, enabling angel groups to pursue larger and later-stage opportunities better positioned for successful exits.

9.1.3 Micro Level Analysis: The Utilization of Resources in Hybrid Angel Groups

This sets up the stage for the micro level analysis that dives into a case study of a hybrid angel group to investigate how resources are coordinated and utilized. This group leverages the social and human capital of their members, which specifically includes their expertise, networks, and relational dynamics to navigate the challenges of early-stage investing (Dutta and Folta, 2016; Bammens and Collewaert, 2014). Through the case study of the hybrid angel group, this research answers the call of Drover et al. (2017) and Landström and Mason (2016) in applying the dynamic capabilities perspective to angel groups and extends the limited and fragmented literature on the internal dynamics and resource coordination within these groups (Croce et al., 2017; Bonini et al., 2018).

First, it suggests that the effectiveness of angel groups in achieving their investment objectives is not simply a function of their underlying resource base and individual capabilities. Rather, it depends on the synergistic interplay and alignment of these capabilities, thus extending the work of Townsend and Busenitz (2015), who emphasized the importance of capability configurations in the context of early-stage financing. The interplay of decision-making capability, which balances formal structure and flexibility, is deeply embedded in and reinforced by the relational dynamics within the group. The trust and shared understanding fostered through strong relational ties enhance the group's ability to make effective decisions in the face of uncertainty and change, as suggested by Bammens and Collewaert (2014).

Second, it highlights the importance of continuous learning and adaptation in the development and deployment of dynamic capabilities. As the angel group navigates the challenges of early-stage investing, it must constantly refine and reconfigure its capabilities in response to feedback from the market and its own experiences. This learning process is facilitated by the group's network

utilization capability, which provides access to a diverse range of external knowledge and resources, as well as by its dynamic risk management capability, which enables the group to proactively identify and mitigate potential threats. These findings align with the work of De Clercq and Dimov (2008), who emphasized the role of learning in the development of angel investors' capabilities, and Hallen and Eisenhardt (2012), who highlighted the importance of adaptation in the context of entrepreneurial firms.

Third, the case study emphasizes the critical role of coordination in the effective utilization of angel groups' resources. The diverse resources contributed by individual members—including financial capital, expertise, and networks—must be strategically integrated and deployed to support the group's investment activities and exit strategies. This coordination is achieved through the interplay of the group's dynamic capabilities, which enable it to align its resources with the changing demands of the market and the evolving needs of its portfolio companies. These findings build upon the work of Hallen and Eisenhardt (2012), who highlighted the importance of resource coordination, and Croce, Tenca, and Ughetto (2017), who discussed the role of angel groups in coordinating resources to support the growth of early-stage ventures.

9.1.4 Positioning Hybrid Angel Groups within the Early-Stage Financing Ecosystem

The empirical evidence unearthed in this study positions hybrid angel groups as a distinct actor within the early-stage financing ecosystem, marking a notable departure from both traditional angel investing models and the venture capital (VC) structures extensively documented by Gompers (1995), Schwienbacher (2008), Bonini et al. (2012), among others. While these studies have discussed how an increase in the size and resources of VC funds is typically accompanied by more stringent, contract-based governance structures, this research reveals a nuanced approach adopted by hybrid angel groups. Unlike the principal-agent dynamic integral to VC operations, as highlighted by Pagliari (2015), hybrid angel groups operate under a modified principal-principal scenario. Members not only invest their own capital but also actively partake in the management of their investments, fostering a natural alignment of interests. However, the increased formalization in hybrid models introduces a level of coordination that bridges the gap between informal angel investing and the highly structured VC funds.

This fundamental difference mitigates the potential for divergent objectives that might impede decision-making processes, while still maintaining a degree

of accountability often associated with more formal investment structures. The hybrid model seems to strike a balance, reducing the necessity for the rigid, mechanistic control mechanisms that Kaplan and Strömberg (2001) and Ewens et al., (2022) identify as critical in VC funds, while still providing a framework for coordinated action and strategic alignment. Instead of relying solely on stringent controls to ensure accountability and safeguard investors' interests, hybrid angel groups in this study are characterized by a more fluid yet coordinated approach. This approach emphasizes shared understanding and the importance of relational dynamics, while also incorporating elements of formal investment strategies. The operational focus of these hybrid groups shifts from enforcing compliance through stringent controls to fostering collaborative engagement within a defined framework, leveraging the collective wisdom of their members.

By identifying hybrid angel groups as a distinct and effective organizational form, this study extends the work of scholars such as Sørheim and Landström (2001) and White and Dumay (2017), who have called for a more nuanced understanding of the early-stage financing landscape. Studies including Sørheim and Landström (2001), Capizzi et al., (2022) and Maus et al., (2024) argue that the heterogeneity of informal investors has been largely overlooked in the existing literature, and that a more fine-grained analysis of the different types of investors and their investment strategies is needed. Similarly, White and Dumay (2017) suggest that the boundaries between angel investing, and venture capital are becoming increasingly blurred, and that new organizational forms are emerging to fill the gaps in the early-stage financing ecosystem.

9.2 Implications for Practice

The findings of this research offer several novel and specific practical contributions for key stakeholders in the early-stage investment ecosystem, particularly angel investors and policymakers.

First and foremost, this study makes a compelling case for angel investors to organize themselves as hybrid angel groups. The empirical evidence presented here suggests that hybrid angel groups, which combine elements of both formal and informal investing, are uniquely positioned to navigate the complexities of early-stage investing and optimize exit outcomes. By leveraging the diverse expertise and networks of their members within a formal yet flexible organizational framework, hybrid angel groups can more effectively sense and

seize market opportunities, manage risk, and create value for their portfolio companies. Moreover, the study highlights how the collective decision-making processes and governance mechanisms of hybrid angel groups can help mitigate the information asymmetries and agency risks inherent in early-stage investing, thereby reducing the risk of adverse selection and moral hazard. For individual angels, joining or forming a hybrid angel group can provide access to a larger pool of deals, enable more efficient due diligence and post-investment support, and ultimately increase the chances of successful exits. For existing angel groups, the findings of this study provide a roadmap for evolving towards a hybrid model that balances the benefits of professionalization with the agility and adaptability required in dynamic market conditions.

Building on this, the study delves deeper into the strategic allocation of resources within angel groups, offering specific guidance on managing financial and human capital to facilitate successful exits. A key insight here is the importance of strategically integrating the diverse expertise of angel group members and setting up mechanisms to harness their unique capabilities in exit-related decision-making processes. For example, angel groups can establish dedicated exit committees or task forces comprising members with relevant industry, financial, or legal expertise to regularly review portfolio companies' exit readiness and develop tailored exit strategies. They can also implement mentoring or peer-review systems to facilitate knowledge sharing and continuous learning among members, thereby enhancing the group's overall exit capabilities. By demonstrating how strategic resource synergy—beyond mere allocation—can serve as a critical lever for optimizing exit outcomes, this study advances the discourse in entrepreneurial finance and provides actionable guidance for angel groups seeking to improve their investment performance.

This research provides actionable insights for entrepreneurs seeking angel investment, highlighting the importance of aligning their growth strategies with the exit preferences and investment philosophies of angel groups. By segmenting angel groups into distinct clusters based on their operational approaches, investment horizons, and preferred funding stages, this study enables startups to develop targeted fundraising strategies that resonate with specific investor archetypes. The findings emphasize the value of proactive relationship-building and strategic fit in the angel funding process. Startups that approach investors with a clear understanding of their investment priorities and a willingness to adapt their plans accordingly are more likely to secure funding and establish productive, long-term partnerships. Ultimately, this

research provides a foundation for a more sophisticated approach to angel fundraising, one that prioritizes alignment, adaptability, and long-term collaboration. By offering practical guidance on navigating the angel investment ecosystem effectively, this study can help entrepreneurs make informed decisions, build stronger investor relationships, and increase their likelihood of achieving successful exits and sustainable growth.

Finally, this research offers specific policy recommendations aimed at fostering a more vibrant and efficient early-stage investment ecosystem. Central to these recommendations is the creation of a more supportive regulatory environment for angel investing, particularly in relation to exit pathways. Policymakers should consider implementing targeted initiatives to facilitate angel group exits through IPOs, such as introducing a "scaled disclosure" regime for early-stage IPOs, creating a "junior" stock exchange with relaxed listing requirements, and developing a "dual-track" IPO process for angel-backed startups. These measures can help reduce the costs and complexities associated with going public, making IPOs a more viable exit option for early-stage companies. In addition, policymakers can play a crucial role in promoting the professionalization and institutionalization of the angel investment asset class, for instance, by providing tax incentives or co-investment schemes to encourage the formation and growth of hybrid angel groups. By creating a more enabling environment for angel investing and exit realization, policymakers can help unlock the full potential of this critical source of risk capital for driving innovation, entrepreneurship, and economic growth.

9.3 Limitations and Future Research Directions

While this study makes contributions to the understanding of angel group dynamics and exit strategies, it is important to acknowledge its limitations and identify opportunities for future research.

First, the quantitative phase of the study was conducted in the context of Sweden, which may limit the generalizability of the findings to other geographical and institutional settings. Although the conceptual framework of angel group clusters is likely to remain relevant across contexts, the specific distribution and characteristics of these clusters may vary. Future research could replicate this study in different countries or regions to assess the robustness and transferability of the findings. Moreover, exploring the

underlying reasons for any observed differences in cluster distributions across contexts would provide valuable insights into the interplay of cultural, economic, and regulatory factors shaping angel group strategies.

Second, the qualitative phase relied on a single case study of a hybrid angel group, based on interviews with its members. While this examination yielded interesting insights into the group's resource mobilization and capability development processes, it is important to recognize the inherent limitations of a single case design. The findings may be idiosyncratic to the specific group studied, limiting their generalizability to other angel groups or clusters. Future research could employ a comparative case study approach, investigating multiple angel groups across different clusters to identify common patterns and divergences in their strategies and practices. Such research would help to refine and extend the model proposed in this study, enhancing its explanatory power and practical relevance.

Third, the study's reliance on interview data may be subject to potential biases and inaccuracies in participants' recollections and perceptions. While efforts were made to triangulate findings and ensure data reliability, future research could incorporate additional data sources, such as observational data from investment meetings to corroborate and enrich the insights gained from interviews. Moreover, longitudinal research designs could be employed to track the evolution of angel groups' strategies and capabilities over time, providing a more dynamic understanding of how they adapt to changing market conditions and learning experiences.

Fourth, while the study examined the influence of key organizational factors such as formalization and decision-making locus on exit strategies, there is opportunity to delve into micro-level processes and interactions through which these factors shape individual and collective behaviors within angel groups. Future research could employ ethnographic or social network analysis methods to unpack the complex social dynamics and power relations underpinning angel group operations. Such research could shed light on how factors like trust, reputation, and influence shape investment decisions and outcomes, and interact with formal structures and processes.

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Appendices

Appendix A. Findings from Exploratory Interviews

In this phase of the research, it was crucial to obtain a comprehensive understanding of the status of angel groups in Sweden, particularly with regards to their investment nature, internal organizational structures, and influence in the local capital markets. To achieve this objective, a set of exploratory unstructured interviews were conducted with six stakeholders of angel groups, including four angels belonging to four different groups, an angel network director and an entrepreneur that raised financing from an angel group. This step was critical as the existing academic literature on angel groups is still in its early stages, and did not include data relevant to the Swedish scenario (Carpentier and Suret, 2015; Croce et al. 2017; Bonnet et al. 2022), while Månsson and Landström (2006) acknowledge the presence and growth of angel networks in Sweden, and Berggren and Fili (2006) discuss the interplay between different forms of capital and the development of business angel networks.

From these interviews, there were two clear themes that emerged:

1. Existence of heterogeneity within angel groups leading to the presence of sub-groups

2. Importance of exits to angel groups

Nature of heterogeneity within angel groups

The first theme emerging from the exploratory interviews highlights the unique characteristic of angel groups: their heterogeneity in it's structure. In particular, interviewees emphasize the various types of angel groups, which can range from smaller, unstructured groups with only a few angels to larger, more structured groups registered as investment companies. The size of angel groups has a direct impact on their operations, with smaller groups investing larger amounts in fewer companies, while larger groups invest smaller amounts across a more extensive portfolio of companies.

"(...) Yeah, you can find angel groups in different sizes. If it's a very small group, like Q- we're about 7 members, and jointly own an investment company. In my angel group, 40% are women, which is really good for the industry. (…) if we talk about Q, where we are *a small amount* of members, then we need to operate quite well. – (Angel group member)

Another theme that emerged from the interviews was the presence of varying levels of locus of decision making and formalization. In past research, angel groups have been assumed to operate as a single investing entity, similar to that of a venture capital fund, or a private equity fund. However, this really puts the heterogeneity of angel groups in focus, which makes them unique from institutional investors.

"Yeah, in my organization, we have a lot of different investors that syndicate in different ways together. There isn't one type of an angel group. Some of them are just 2-3 angels coming together, in other cases, we have a group of friends that know each other well. Some other times, its individuals that are independently interested in an investment pitch, and come together for that investment (…) So, in terms of sizes, they can be anywhere from 2-3 angels to 20-30 or even more. Their structure entirely depends on their arrangement. Could be very unstructured and flexible, to being an investment company really." – (Programme Director of an angel network)

This heterogeneity within angel groups is further supported by previous literature, such as Mason et al. (2019), who examine the diversity of sizes and operational structures among angel groups, and Shane (2008), who discusses the influence of angel group structure on investment processes, presence of sidecar funds, and preferred stage of investment.

This theme is critical for understanding the complexities of angel group operations and investment strategies, as well as the backgrounds of the investors they attract. The interview guide will delve into questions related to angel group size, structure, and preferred stage of investments, as well as the influence of centralization and formalization in exit strategy.

Importance of exits to angel groups

The second theme emerging from the exploratory interviews underscores the importance of exits to angel groups. These interviews shed light on the investment preferences, criteria, and expectations that angel groups establish surrounding exits. They also highlight the variations in exit strategies, ranging from planned to unplanned approaches. This information can be used to inform

an interview guide focusing on factors influencing angel investment criteria and approaches to exits, addressing exit routes, time horizons, and decision-making factors. The exploratory interviews also provide a foundation for developing a sampling approach highlighting angel group investments with diverse exit strategy, in combination with their heterogeneity, as highlighted in theme 1.

"They are aware of exits, most of the times. But it depends on when they invest. Like I said, most of them invest very early, so it's early to think about exits. But it depends on the investor and their priority really. Some groups are really focused on the exit from before they invest, and others let it come to them" – (Program Director of an angel network)

This theme diverges somewhat from the findings of past research on individual angel investors' attitudes towards exits, which have generated mixed results. While most studies suggest that individual angels tend to neglect future exit strategies, lack exit plans at the time of investment, and display a lenient attitude towards exit timing (Wetzel, 1981; Gaston, 1989; Harrison and Mason, 1992; Landström, 1993; Mason and Harrison, 1994; Lumme et al., 1998; Harrison et al., 2016), a few studies report a greater emphasis on exits, albeit remaining inconclusive overall (Peters, 2009; McKaskill, 2009; Mason et al., 2015; Tenca et al., 2018; Botelho et al., 2021). This theme accentuates how angel groups differ from their individual counterparts, placing a clear importance on exits.

"Although I can't get into too many details about this, there is a clause mentioned in the memorandum of understanding, that if an exit opportunity arises, we must take also. Also, we have a time horizon in mind, and a rough exit route in mind. However, in reality when we work, or when we have board meetings and other meetings, we aren't really focused on the exit." – (Entrepreneur)

In conclusion, the emergence of the two themes, specifically the existence of heterogeneity within angel groups and the importance of exits to angel groups, sets a strong foundation for further exploration of the topic. The heterogeneity of angel groups sheds light on the potential influence of varying levels of formalization and locus of decision-making on their investment processes, preferences, and decision-making. This complexity necessitates a more in-depth understanding of the factors that mold angel group operations, specifically in understanding how their exit strategies unfold.

The importance of exits to angel groups underscores the necessity of investigating their approach to exit strategies, with a particular emphasis on

how these strategies evolve in relation to the structure of the angel group. Given the inconsistent findings in previous literature concerning angel investors' attitudes towards exits, it is crucial to delve deeper into the factors that drive the development of diverse exit strategies and decision-making processes. Obtaining a thorough understanding of these aspects is vital for both angel groups and entrepreneurs, as it will provide valuable insights to facilitate better alignment of expectations, investment criteria, and exit planning, while taking into account the unique structural characteristics of the angel group.

Appendix B. Explorative Interview quotes:

Size, structure and stage of investment of angel groups quotes:

"Yeah, in my organization, we have a lot of different investors that syndicate in different ways together. There isn't one type of an angel group. Some of them are just 2-3 angels coming together, in other cases, we have a group of friends that know each other well. Some other times, its individuals that are independently interested in an investment pitch, and come together for that investment (…) So, in terms of sizes, they can be anywhere from 2-3 angels to 20-30 or even more. Their structure entirely depends on their arrangement. Could be very unstructured and flexible, to being an investment company really." – (Programme Director of an angel network)

"(...) Yeah, you can find angel groups in different sizes. If it's a very small group, like Q- we're about 7 members, and jointly own an investment company. In my angel group, 40% are women, which is really good for the industry. (…) if we talk about Q, where we are *a small amount* of members, then we need to operate quite well. Since we are so small, we are quite tight in terms of timeframe, why we're investing, how we are engaged and so on. In such a group, we cannot be someone that needs to exit in 2 years, or sit for 10 years- it wouldn't work in that very tight environment. But if you look at a bigger angel group, everyone invests a small amount of capital. Every member invests between 200,000 and 400,000 SEK, and you're investing more in people. You will be a small shareholder in maybe 60 companies. So then, it's more an opportunity to get deal flow, meet new investors, and so on. It's setup for newer investors, that invest smaller amounts of money. Since you spread the risk in a wide portfolio of companies, you will never be rich from one investment."

– (Angel group member)

"Yeah, like I said, some angels that want a good return on investment look for later stage investments. Otherwise, in my organization at least, they invest in seed stage and early stage" – (Program Director)

Exits quotes:

"They are aware of exits, most of the times. But it depends on when they invest. Like I said, most of them invest very early, so it's early to think about exits. But it depends on the investor and their priority really" – (Program Director and an angel network)

"Although I can't get into too many details about this, there is a clause mentioned in the memorandum of understanding, that if an exit opportunity arises, we must take also. Also, we have a time horizon in mind, and a rough exit route in mind. However, in reality when we work, or when we have board meetings and other meetings, we aren't really focused on the exit." – (Entrepreneur)

Motives of angel groups quotes:

"(…) We have a diverse set of investors, in terms of experience, very new investors to experienced investors, coming from very different backgrounds. A lot of them have professional or business experience, and like to coach the companies they invest in. Many of them are also present for networking reasons actually. I remember, when we have investment pitching events, where entrepreneurs present their companies, sometimes, these angels aren't even interested in listening to the entrepreneurs! They are so happy and busy to talk to each other! (…) In my experience, pure financially motivated angels are fewer in number. The ones that have a motive to do this, invest in late stages of the startups, and invest more capital. – (Programme Director of an angel network)

"Yeah, in a group like C, where networking and deal flow is the specialty, you don't make a lot investment return. I mean, you will never be rich investing in a wide portfolio of companies, like never 10 times your capital. This is maybe a return, if it works out, plus say a 10%. The main point is to find the companies that you would like to focus on where you invest, and be a part of. In C otherwise, since we invest larger sums of capital per member, the situation is different. Also, angels who invest in early-stage companies, think of more than just money. It's almost like a charity sometimes. You have other options to invest in startups for money, like *two incubators* in Stockholm, and other

public venture capital funds with actual employees investing taxpayer money. But among angel groups, the motives can vary a lot depending on the group really. – (Angel group member)

"We are 3 first time entrepreneurs in this company, so a little but inexperienced, or less experience than many people out there. Although, through investor networks, and university networks, we met many investors, we ultimately chose business angel investors because we saw the benefits of people who could give us a little bit of guidance in a strategic manner. We also gave them a board seat, because we were just very sure that they could deliver also additional value just more than money. So, this was the main thought process. However, our capital needs were also higher than those 2.5 million SEK they offered, so we also had to take on debt financing. (…) They allow us for operational freedom, with occasional guidance, but we think in the same direction. (…) They gave us a lot of professionalism as well, by bringing them on the board, having more structure to the business having a suitable reporting of documents and so on. The culture is still the same, they don't intervene in that way, but the processes are more professional for sure. It's a good relationship. – (Entrepreneur)

Appendix C. Survey

Greetings! Our objective is to gain a thorough comprehension of the investment decision-making process of business angel groups.

Our focus is on the organizational structure of these groups and its impact on their decision-making procedures. To assist us in this endeavor, we would greatly appreciate your participation in our survey.

Here's what you need to know:

1) We're focusing on individual investments. So, when answering the questions, please think about a specific, representative investment your group has made. Ideally, this would be an investment that's nearing an exit or in the late stage.
2) Try not to mix up different investments made within the same group or with other groups.
3) The survey should only take about 5-10 minutes of your time.
4) As a thank you for participating, you'll receive a copy of the final results of the study.

5) Your responses will be anonymous, and we'll store all data on secure servers at Lund University, following GDPR and the university's privacy policies.

Thank you so much for your time and insights. They're incredibly valuable to us!

1) **This question is about your experience from investing together with other business angels in groups. Please select the alternative that describes your situation:**
   a) I am part of an angel group
   b) No, I have never invested together with other business angels in a group

2) **What was the total investment size for this particular deal (in SEK)?**
   a) Less than 150,000 SEK
   b) 150,000-299,999 SEK
   c) 300,000-749,999 SEK
   d) 750,000-1499,999 SEK
   e) 1,500,000-2,999,999 SEK
   f) 3,000,000-7,499,999 SEK
   g) 7,500,000 SEK and above

3. **How many members from the angel group invested in this company?**

   a) Less than 3 members
   b) 3-5 members
   c) 6-10 members
   d) 11-15 members
   e) 16-20 members
   f) More than 20 members

4. **What is the (expected) holding period for this investment?**

   a) Less than 2 years
   b) 2-4 years
   c) 5-7 years
   d) 8-10 years
   e) More than 10 years

5. What industry/sector does the invested company operate in?

a) Technology
b) Finance
c) Healthcare
d) Consumer goods
e) Energy

6. Please rate the following statements relating to member roles and responsibilities for investments within your angel group?

(Scale from 1-7, where: 1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Neither Agree nor Disagree, 5 = Somewhat Agree, 6 = Agree, and 7 = Strongly Agree)

a) The group has a formal induction program for new members
b) The angel group provides training and resources to ensure that new members feel confident in their roles and responsibilities
c) Regular mentoring is conducted to ensure new members receive continuous support and guidance in their roles
d) Member roles and responsibilities for this investment are clearly written and defined
e) Member roles and responsibilities are matched according to their skills, experience and interests

7, Please rate the following statements relating to the deal-origination, screening and due diligence process undergone about a specific investment in your angel group.

a) The investment opportunity was identified through the network connections of the angel group
b) The screening process involved a thorough evaluation of the investment opportunity by designated groups or individuals
c) The group has a formal process for identifying and sourcing potential investment opportunities
d) All the members that invested actively participated in the deal-structuring and negotiation process
e) The credibility of the entrepreneur/company was evaluated based on their network connections

8. Please rate the following statements relating to the decision-making process undergone about a specific investment in your angel group.

a) Members had the individual freedom to make their own decision to invest in the company
b) Members have the flexibility to select the role they would like to assume post-investment
c) Members with a greater number of connections in the industry were more involved in this investment decision
d) Decision-making procedures relating to the investment are clearly formulated and written
e) Members' past collaborative experiences influenced the decision-making process

9.Please rate the following statements relating to the post-investment decision-making process undergone about a specific investment in your angel group.

a) Members who invested had the opportunity to participate in and contribute to strategic decision-making during the post-investment stage
b) A member who makes decisions about the investment without consulting the group first would be discouraged
c) Members with specific expertise or industry knowledge had a greater influence on the decision-making process for this investment
d) Work-loads of members are adjusted through the lifecycle of the investment
e) Post-investment monitoring and performance appraisals are based on written standards/parameters

10.Please rate the following statements relating to recognition and documentation practices in your angel group.

a) There is recognition for outstanding work by individual members towards the investment
b) Members who have a wider network of connections are more recognized in the angel group
c) The group's network connections contribute to its reputation and legitimacy
d) The group has a standard format for documenting investment analyses and recommendations

e) The process of creating and maintaining investment-related documentation is centralized and managed by a few key individuals

11.Please rate the following statements relating to the exit process undergone about a specific investment in your angel group.

a) At the time of investment, there was a clear plan that outlined the objectives for the investment, including specific timelines and performance metrics
b) A comprehensive exit plan (including time-frame, exit route, valuation target, network connections, and budgets) was established at the time of investment
c) The 'possibility of exit' played a major role in making the investment decision
d) The exit strategy was designed to achieve specific objectives (e.g., high return on investment, strategic exit, synergies, etc.)
e) The investment has been regularly reviewed in the context of the exit strategy to monitor progress effectively
f) The exit strategy decision-making process remains adaptable to changing circumstances
g) The pursued exit strategy significantly differs from the original plan

12. What is your age?

a) Under 25
b) 25-34
c) 35-44
d) 45-54
e) 55-64
f) 65 and older
g) I prefer not to answer

13. What is the highest level of education you've completed?

a) High school or equivalent
b) University Bachelor's Degree
c) University Master's Degree
d) University PhD or higher
e) Other (e.g. vocational/professional qualification etc.)
f) I prefer not to answer

14. What is your current occupation?

a) Entrepreneur
b) Executive & Management
c) Professional (e.g. lawyer, doctor et.)
d) Investor
e) Other

15. Which industries have you worked in before? Please select all that apply:

a) Technology
b) Finance
c) Healthcare
d) Consumer goods
e) Energy

16. Which of the following best describes the primary industry focus of your angel group? Please select all that apply:

a) Technology
b) Finance
c) Healthcare
d) Consumer Goods
e) Energy
f) Other
g) We do not have a specific industry focus

17. Approximately how many deals has your angel group completed in the past 3 years?

a) None
b) 1-5
c) 6-10
d) 10-20
e) More than 20

Appendix D. Dunn's Test Output

Clusters 1 and 2 (Adjusted p-value = 0.002052): The significant difference in their Rank Means suggests that these clusters, despite being closer in their strategic approaches compared to others, still differ significantly in their exit strategy formation.

Clusters 1 and 3 (Adjusted p-value = 0.001573) and Clusters 1 and 4 (Adjusted p-value = 0.000001): The substantial difference in Rank Means between these pairs of clusters indicate that Cluster 1's approach to strategy formation is markedly different from that of Clusters 3 and 4.

Clusters 2 and 3 (Adjusted p-value = 0.000000) and Clusters 2 and 4 (Adjusted p-value = 0.0000): These results suggest a very pronounced difference in the strategy formation between Cluster 2 and Clusters 3 and 4, respectively.

Clusters 3 and 4 (Adjusted p-value = 0.007013): Although this is the only comparison that is not statistically significant at the adjusted p-value level (0.004167), it still indicates a trend towards different strategic approaches between these two clusters.

Appendix E. Interview Guide

General Section

Let's begin with company X and your angel group –

1. How did you find the company?
    a. Who found the company?
2. Upon deciding to invest in this company, what were the primary objectives? What attracted you to this company over others? "Potential"-
    a. Potential to do what?
    b. Did you envision an end goal or exit strategy at the outset?
3. Discuss the steps taken to begin achieving the identified goals?
    a. How much did you invest in this company? - and why? How was the valuation done, and what did the group think of it?
    b. How did you distribute the responsibilities? Who did what?
    c. How did you make decisions regarding things?
        i. If they were big decisions to make?
        ii. If they were small decisions to make?

    d. How were decisions communicated and coordinated between the subgroups and the rest of the angel group?
        i. Were there any challenges related to information flow and how were they managed?
4. Could you talk to me about your involvement with the company?
5. How did you make decisions typically with the company?

Critical Incident Section

1. Can you describe Incident Y in detail?

    a. What were the circumstances leading up to this incident?

2. Prior to Incident Y, what was the planned exit strategy for the company?

    b. How was this strategy expected to unfold over time?

3. How was your exit strategy affected after this?

    a. Follow-up into this.

    b. Describe the process of adjusting your strategy in response to the incident.

4. How did the angel group collaborate to address the challenges presented by Incident Y?

    a. Were there differing opinions on how to proceed, and if so, how were these reconciled?

5. How has Incident Y influenced your broader perspective on investing as a group?
    a. Are there any changes you've made to how you approach other investments as a result?

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Business Angel Groups and Exit Strategies

In recent years, angel investors have increasingly joined forces to form investment groups, pooling their resources and expertise to enhance their impact and mitigate risk. However, despite their growing prominence, angel groups remain understudied and poorly understood. This thesis addresses this critical gap by investigating the heterogeneity and dynamics of angel investor groups, with a particular focus on their exit strategies and resource utilisation. Through a mixed-method approach, it uncovers the interplay of financial capital, organisation, and group capabilities in pursuit of exit strategies.

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