



Talking With Angels

*Towards a Holistic Perspective on Angel Investors' Decision-Making
Processes*

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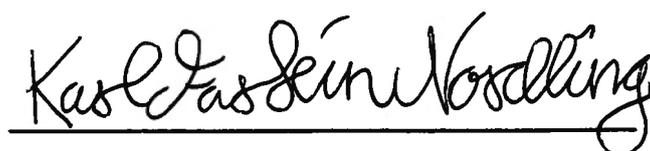
This thesis is affectionately dedicated to my severely sub-par ASUS ZenBook UX305FA computer for not dying on me during this project, and to ATLAS.ti, version 8.4.18 that was once installed on that computer. Never had I thought that plain text and so little computing power could compile so many clairvoyant insights.

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So say we all.

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Abstract

There is a general impression in Norway that most entrepreneurs struggle to secure funding from venture capital providers, such as angel investors. Worse still, most angel research has failed to be of practical use, mainly because such studies fail to consider interdependencies in angels' decision-making processes. This study contributes to reduce the research-practice gap and highlight the cross-cultural context in seed capital investments. My qualitative analysis of comparative, U.S.-Norwegian data verifies past research in the Norwegian context by finding that angels employ the Affect Heuristic, Confirmation Bias, Elimination-by-Aspect Heuristic, and Availability Heuristic. Further, I expand research by discovering three novel heuristics. Firstly, angels prefer to invest within industries in which they are interested or are experts in, labeled Personal Relevance Heuristic. Secondly, Norwegian angels perceive a higher risk of product-market fit failure, because of a proposed lack of a sales mindset in Norway relative to the U.S., labeled Salesperson Heuristic. Thirdly, older and more experienced angels are more hands-on and exercise more control over investments, labeled Deference-towards-the-Archangel Heuristic. I validate my findings and interpret them within a three-stage angel investment decision-making process. Moreover, I provide practical recommendations for angels, entrepreneurs, and government.

Keywords – Angel Investors, Decision-Making, Holistic Perspective, Heuristics, Seed Capital, Norwegian Context

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1 Introduction

Any entrepreneur wanting to start a company needs money. Frequently, they seek investors to provide capital to be used for staffing up a skilled team, cover costs to bring a product or service to market, or simply to get access to an investor's network and knowledge. At the seed stage of startup funding, the entrepreneur can seek numerous sources of financing. Historically, though, angel investors have proven to be the most significant source of seed capital (Maxwell et al., 2011). I define angel investors as high net-worth individuals that provide risk capital to startups or high growth businesses in which they have no family connection, to reap financial gain (Mason, 2006; Mason and Harrison, 1995; Wetzell, 1983)¹. There is a growing presence of angels in Norway, but research on how these investors make investment decisions is sparse and has declined over time because such research has continuously failed to be of practical use outside of academia (Landström and Sørheim, 2019).

This research seeks to address this gap by introducing a holistic angel investment decision-making perspective, guided by heuristics². I collect and analyze qualitative data from a comparative dataset of Norwegian and U.S. angels. I confirm past research's proposition that angels utilize heuristics and identify a total of seven heuristics. Four of them, Affect Heuristic, Confirmation Bias, Elimination-by-Aspect Heuristic, and Availability Heuristic, are well-founded in heuristics theory. In addition, I discover three novel heuristics: (1) Personal Relevance Heuristic, which I define as the tendency for angel investors to prefer to invest in startups that match their preferences of industry, growth potential, and turf of expertise; (2) Salesperson Heuristic, which I define as the tendency for angel investors to perceive startups with lack of a sales mindset or sales function as having a higher risk of product-market fit failure relative to other startups, which I propose is more prevalent in Norwegian society relative to U.S. society; and (3) Deference-towards-the-Archangel Heuristic, which I define as the tendency for older or more experienced angel investors to be more hands-on and directive with their investments.

¹By *seed stage* I mean both the pre-seed and seed stages of startup financing. Throughout the thesis, I use *angel* and *angel investor* interchangeably. One of the angels I interviewed objected to my angel definition, arguing that the advent of the internet and online platforms have enabled lower net-worth individuals to become angels. Even so, such individuals likely have above-median wealth.

²I consider *heuristics* as a broad term that also encompasses biases; I will use the words interchangeably.

1.1 Research Context

The research context of this study concerns the decision-making process of an individual angel investor, from initial interaction with an investment-seeking entrepreneur until a deal is either finalized or rejected. The theoretical motivation for exploring this phenomenon stems from the increased importance of angel capital in a market where most startups are unsuccessful. Over 90 % of startups fail, most of them because they either grow too fast and waste money, grow too slow and run out of money, or because they cannot attract funding in the first place (Marmer et al., 2011). Aspiring entrepreneurs should, therefore, naturally ask themselves from what sources they should seek capital at the seed stage. Several sources of startup capital exist, from formal venture capital (VC) funds to syndicates of numerous investors to business angel networks (BANs) and private angels, wire transfers from friends and family, or organic growth enabled by early sales (bootstrapping) (Ward, 2018). Lately, microfinancing through crowdfunding facilitated by online platforms has become increasingly popular, spurring academic research (e.g., Cummings et al., 2019; Oo et al., 2018; Shafi, 2019). Although the role of both crowdfunding and syndicates is gaining popularity, the role of the Norwegian angel investor is of increasing importance. Business angel networks are becoming established across the country, with the establishment of Business Angels Norway in 2016 and BAN Bergen in 2015. Hence, a new marketplace for seed capital available to Norwegian investment-seeking entrepreneurs is opening up. However, there is a general impression amongst actors in the Norwegian entrepreneurial ecosystem, such as the technology transfer office VIS and the networking organization Connect Vest, that entrepreneurs struggle to secure seed capital. Thus, understanding how angels operate and make decisions is beneficial to stakeholders, including entrepreneurs, angels, and the government.

The angel investor phenomenon has received limited research. In the last ten years, less than 210 academic papers with a CABS Academic Journal Guide 2018 rating of 3, 4, or 4* include the notion of an angel investor, and only 43 of these papers focus exclusively on angels. Research on Norwegian angels is even sparser, with only a few seminal examples existing and those being rather matured (e.g., Reitan and Sørheim, 2000; Sørheim, 2003). Most such research has been focused within an investment outcome research stream, in which the focus is either on how specific venture characteristics lead to favorable

investment outcomes, or to reveal investment criteria employed by angel investors. Such studies are of limited practical use, because they assume completely rational investor behavior where every and all investment criteria are examined with equal weight, or that some firm characteristics lead to specific investment outcomes, regardless of context. In reality, angels are more likely to deliberately simplify their decision-making processes through the use of simplification strategies, or “rules of thumb,” i.e., heuristics (Harrison et al., 2015). Of those few studies that do take a heuristics approach, three propositions emerge. Firstly, angel investors are believed to use investment criteria selectively and not exhaustively and comprehensively (Maxwell et al., 2011). Secondly, angels are believed to learn throughout their investment activities continuously; thus, heuristics are mediated by learning (Harrison et al., 2015). Thirdly, angels’ decision-making and their use of heuristics vary between countries and are dependent on countries’ level of trust (Ding et al., 2015). While some research is starting to approach a more holistic perspective, such efforts are often overshadowed by the bulk of research coming out of the investment outcome research stream.

This research aims to address this gap by unifying the investment outcome research stream and the heuristics-centric research stream into a holistic perspective on angel investment decision-making. Moving towards a holistic view allows exploring the entirety of angel decision-making at the seed stage, and opens up for re-interpretation of past research. The study leverages this unification by employing a comparative dataset of three U.S. angels, three Norwegian angels, and one Cross-Atlantic (investing in both countries) angel. As most past research is North American, the employment of a comparative dataset allows for a better understanding of how Norwegian angel investors make decisions. In order to explore the nuances of Norwegian angels’ decision-making processes, the following research question is then appropriate:

What are the nuances and interdependencies of Norwegian angel investment decision-making, and how do the nuances and interdependencies change across different stages of angels’ decision-making processes?

To answer the research question, I derive the following research objectives: (1) Conduct qualitative, comparative research to gain insights into Norwegian angel investors’ decision-making processes at the seed stage of new venture funding; (2) Based on an extensive

literature review and exploratory analysis of comparative U.S.-Norwegian data, determine whether Norwegian angel investors inhibit irrational decision-making, such as biases, or employ "rules of thumb," such as heuristics; (3) Provide practical advice to relevant stakeholders, such as investment-seeking entrepreneurs, angels themselves, and the government.

The thesis employs the following structure: The next chapter arms the reader with needed literature on angel decision-making (Chapter 2: Literature Review). Then, I present my research methodology (Chapter 3: Methodology), before moving on to present and discuss my findings (Chapter 4: Findings), and subsequently evaluate my findings (Chapter 5: Validation Analysis). Finally, I briefly conclude and offer practical advice to stakeholders, and suggest alleys for future research (Chapter 6: Conclusions) (Figure 1.1)

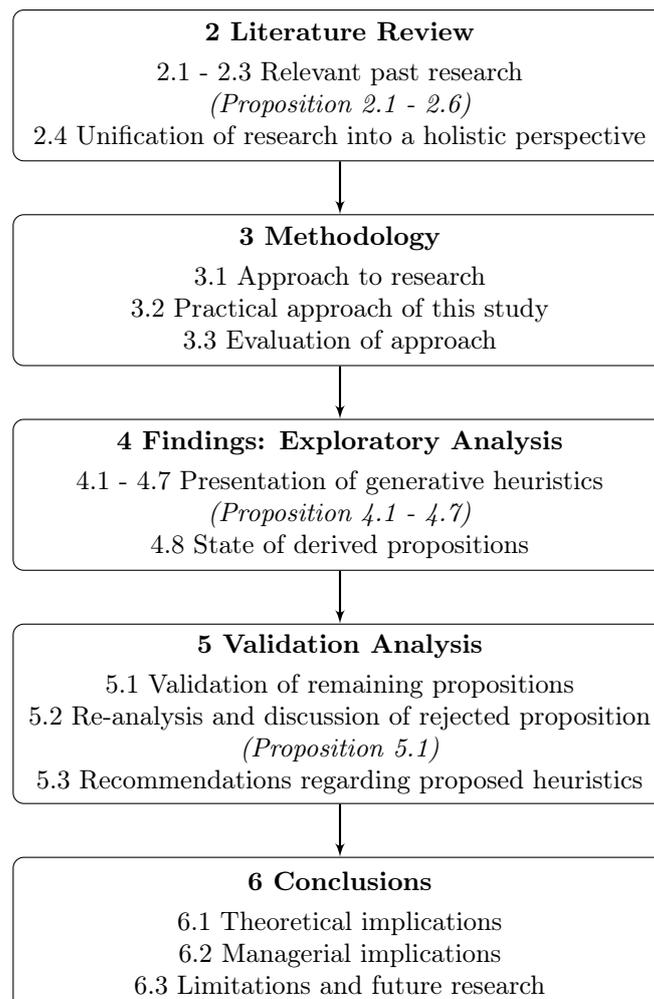


Figure 1.1: Outline of the Thesis

2 Literature Review

This thesis aims to explore the aspects and interdependencies of Norwegian angels' decision-making processes. As such, it is first essential to present past research on angel investors, its limitations, and how it guides my research. The review revealed two research streams: one large focusing on firm characteristics and how it relates to angel investment outcomes (I), and a much smaller research stream that takes a heuristic-centric, decision-making perspective (II). As early as 1998, Landström recommended subsequent research to focus on the nuances of angel investors' decision-making processes rather than exclusively on firm characteristics and investment outcomes. Still, this has failed to happen, with few examples of seminal research within Research Stream II³ (i.e., Ding et al., 2015; Harrison et al., 2015; Maxwell et al., 2011). Then, should the bulk of literature from Research Stream I be discarded? I believe such an approach would be far too arrogant. On the contrary, past research offers helpful insights if it is re-interpreted. Therefore, I propose to combine the two research streams and relevant theory on investment decision-making into a holistic perspective (Figure 2.1). Informed by this perspective, I first present a theory on investment decision-making and how angels conduct it in a three-stage decision-making process before I present the two research streams in turn. The review is by no means exhaustive, and the two research streams are not exclusive nor exhaustive categories. Rather, selecting the most relevant studies and classifying them into either stream is only meant to enlighten the reader's understanding of what perspective this research is taking.

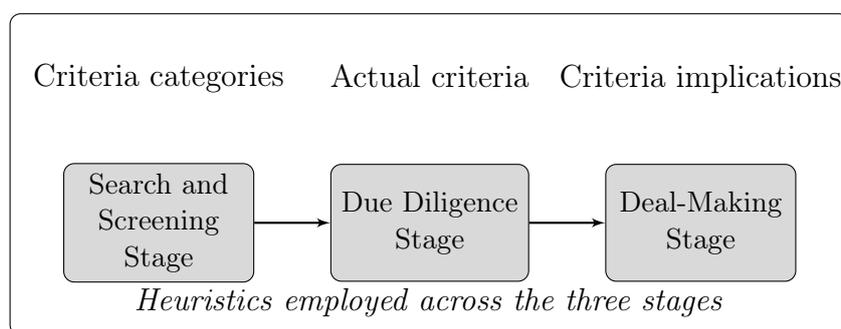


Figure 2.1: A Holistic Perspective on Angel Investment Decision-Making

³When selecting academic articles, I used Scopus advanced search and Boolean operators to limit the search to angel investment research within the last ten years and to papers with a CABS Academic Journal Guide 2018 rating of 3, 4, or 4*. Any other listed literature has been identified through cross-references in the identified literature or through a specific search for work by seminal researchers.

2.1 Investment Decision-Making

Investment decision-making is a cost-benefit analysis where investors try to comprehend information derived from the environment (Harrison et al., 2015). All investment options originate in the environment's demands, and each demand has either an associated cost or benefit (Li et al., 2009). I loosely adopt past research' proposition that angel investors make this assessment across three different stages: the Search and Screening Stage, the Due Diligence Stage, and the Deal-Making Stage (Mittiness et al., 2012). At the Search and Screening stage, the angel rapidly evaluates numerous investment proposals to determine if any of them has an associated "fatal flaw" that disqualifies the startup from a more comprehensive assessment (Maxwell et al., 2011). At the Due Diligence Stage, the angel performs a more elaborate assessment on several characteristics of the venture. If an investment passes through due diligence, financial and ownership details are discussed and negotiated with the entrepreneur at the Deal-Making Stage. (Mittiness et al., 2012)

Proposition 2.1. *Angel investors' decision-making processes happen in three stages: Search and Screening, Due Diligence, and Deal-Making.*

There is a prominent risk across these three stages, the angel being most concerned about market-related risk and risk associated with the relationship to the entrepreneur (Fiet, 1995). The market risk is related to the performance of new ventures in the market (Das and Teng, 1998). The relationship risk is related to the angel having concerns about agency risks, such as Moral Hazard and Adverse Selection (Maxwell and Lévesque, 2014). Also, individual angels may have a higher perceived risk if they consider that there are things they know, things they know they do not know, and things they do not know that they do not know (e.g., Knight, 1921). Because angels often receive a large number of investment proposals at any given time, they are prone to information overload (Zacharakis and Meyer, 2000). As such, angels will try to simplify their decision-making processes by applying heuristics (Harrison et al., 2015). A heuristic is a cognitive shortcut - a "rule of thumb" that is deliberately used to simplify a decision, often by substituting a complicated question with a more manageable one (Kahneman, 2003). Heuristics are connected to biases, which are thought patterns that lead to irrational thoughts and outcomes (Tversky and Kahneman, 1974).

Table 2.1: Overview of Angel Research Streams (source: author's research)

I: Investment Outcome Research Stream	II: Decision-Making Process Stream
<ul style="list-style-type: none"> • <i>Investment criteria identification</i> (Bachher and Guild, 1996; Feeney et al., 1999; Landström, 1998; Mason and Harrison, 1996; Sudek, 2006) • <i>Optimal decision models</i> (Cipollone and Giordani, 2019) • <i>Entrepreneurs' communication</i> (Cardon et al., 2017; Maxwell and Lévesque, 2014; Mitteness et al., 2012; Murnieks et al., 2016; Parhankangas and Ehrlich, 2014; Warnick et al., 2018; Wetzel, 1983) • <i>Angel and BAN characteristics</i> (Becker-Blease and Sohl, 2011; Carpentier and Suret, 2015; Mitteness et al., 2012; Wiltbank et al., 2009) • <i>Entrepreneurial characteristics</i> (Becker-Blease and Sohl, 2015; Boulton et al., 2018; Poczter and Shapsis, 2018) 	<ul style="list-style-type: none"> • <i>Heuristic identification</i> (Harrison et al., 2015; Maxwell et al., 2011) • <i>Bias as heuristic activator</i> (Chan and Park, 2015) • <i>Trust as heuristic mediator</i> (Ding et al., 2015) • <i>Experience as heuristic mediator</i> (Harrison et al., 2015)

2.2 Research Stream I: Investment Outcome

The bulk of angel investment research focuses on attributes of either the angel, the entrepreneur, or the startup, that leads to investment outcomes. Wetzel (1983) recommends entrepreneurs to highlight certain aspects of their startup to increase their success in receiving funding, such as detailing the startup's management and associated risks but also to spend time understanding the angel's deal-flow and past industry experience. The paper's discovery and conceptualization of angels spurred research into identifying which startup investment criteria they employ. Subsequently, Bachher and Guild (1996), Feeney et al. (1999), Landström (1998), Mason and Harrison (1996) and Sudek (2006) identified 28 investment criteria that angels employ when they make investment decisions (Table 2.2). Subsequent studies have gradually narrowed their scope, with recent examples going as deep as to model optimal matching between entrepreneurs and angels mathematically (Cipollone and Giordani, 2019). Although newer research is starting to contradict the dominant view that angels inhibit completely rational decision-making, they still only consider the investment outcome rather than the process.

In a pitch setting, several entrepreneurial communication strategies have been found to increase funding, such as enthusiasm, preparedness, commitment, and using positive language that highlights innovation, competitiveness, and norm conforming to that of the angel (Cardon et al., 2017; Parhankangas and Ehrlich, 2014). Here, entrepreneurs that manage to convey trustworthiness are perceived as better candidates for funding (Maxwell and Lévesque, 2014). Perceived shared personality traits between the entrepreneur and the angel also increase investment likelihood (Boulton et al., 2018). Entrepreneurs that

Table 2.2: Selected Past Investment Criteria Research from Research Stream I

Category	Criteria	Bachher and Guild (1996)	Feeney et al. (1999)	Landström (1998)	Sudek (2006)	Mason and Harrison (1996)
Product	Benefits	x	x	x	x	x
	Status	x				x
Market	Protectability	x		x	x	x
	Innovation	x				x
	Market size	x		x	x	x
	Customer engagement	x				
	Growth potential	x	x	x	x	x
Entrepreneur	Supply chain	x		x		x
	Market dynamics	x	x	x	x	x
	Industry experience	x	x	x	x	x
	Track record	x	x	x	x	x
	Commitment	x	x		x	x
Financial	Trustworthiness	x	x		x	x
	Technology knowledge	x		x		
	Expectations		x			
	Feasibility		x		x	x
	Cashflow		x		x	x
Investment	Investment size		x		x	x
	Pitch	x	x	x		x
	ROI		x	x	x	x
	Liquidity		x	x	x	
	Team		x	x	x	x
	Entrepreneur fit	x	x		x	x
	Business fit		x	x	x	x
	Location	x		x		
	Referral source	x				x
	Co-investment	x		x	x	x
Investor role	x	x	x			
Sample size		20	153	73	72	1

The table's contents are selectively adapted from Maxwell et al. (2011) and lists fewer authors than the source table. Some criteria have been renamed to better fit this study's context.

are passionate increase their likelihood of receiving angel funding, (Mittiness et al., 2012; Murnieks et al., 2016; Warnick et al., 2018) where passion for both product development and perceived preference for working closely with the angel further strengthens investment likelihood (Warnick et al., 2018). Becker-Blease and Sohl (2015) draw attention to how perceived legitimacy increases angel investment, and find that a high-quality top management team, an advisory board, and further developed startups are positively related to investment outcome. However, they find that business plans do not increase legitimacy, which highlights that such documents in themselves may only serve a largely symbolic purpose, or as a filter when angels screen numerous investment proposals (Chan and Park, 2015).

In examining whether characteristics of the angel affect funding outcomes, Mittiness et al. (2012) find that passionate angel investors are more likely to fund. The effect is positively mediated by an angel being older, more intuitive, willing to mentor, or having an open personality, and negatively mediated by an angel being extroverted, or a focus on maximizing gains rather than minimizing losses, i.e., a promotion-dominated regulatory focus (Mittiness et al., 2012). Other research shows that angels who focus on predicting success invest higher amounts, although those angels that exercise control experience fewer investment failures without a reduction in high-performing investments (Wiltbank et al., 2009). When convening and assessing investments inside a BAN, a small minority of female angels is associated with lower chances for investment-seeking entrepreneurs to obtain funding (Becker-Blease and Sohl, 2011). It is unclear, however, whether the effect is attributed to gender itself or if there are other explanations such as differences between angel groups in general.

Some studies have started to highlight how angels' biases affect investment outcomes, identifying several relevant biometric entrepreneurial characteristics. While the gender of the entrepreneur has no significant effect on the ability to get angel funding, dominantly female founding teams tend to ask for less funding than dominantly male founding teams; thus, they receive less funding (Poczter and Shapsis, 2018). Being older decreases the likelihood of receiving funding, and being a black entrepreneur is a disadvantage in terms of investment size compared to all other ethnicities (Boulton et al., 2018).

2.3 Research Stream II: Decision-Making Process

A smaller, yet more focused stream of research focuses on how angels make investment decisions in stages and which cognitive processes are at work at the different stages. Recall that the angel investment decision-making process happens in three stages: Search and Screening, Due Diligence, and Deal-Making (Mitteness et al., 2012). Newer studies by Kahneman (2011) highlight the interdependent nature of decision-making and the role of heuristics in his landmark work, *Thinking, Fast and Slow*. The central proposition of his work is that human thinking revolves around two modes of thought - System 1 and System 2 thinking. System 1 is mostly automatic and requires less effort, whereas System 2 is slower, more elaborate, and logical, but requires much more mental effort. Kahneman associates heuristics primarily with System 1 thinking and argues that heuristics allow individuals faced with a decision to compare it to previous instances and act in a similar pattern instead of deciding on a new pattern for every decision (2011). I thus infer that the Search and Screening Stage is more dominated by System 1 thinking than the Deal-Making Stage, although it is possible that my study might reveal heuristics also in later stages of angel investment decision-making.

Proposition 2.2. *The Search and Screening Stage in angel investors' decision-making processes is dominated by System 1 thinking, whereas the Deal-Making Stage is dominated by System 2 thinking.*

Past research identifies the presence of the Anchoring and Adjustment, Availability, Elimination-by-Aspect, and Representativeness heuristics (Table 2.3) (Harrison et al., 2015; Maxwell et al., 2011). While most past literature suggests compensatory decision-making, i.e., that angels evaluate all investment criteria with equal weight, Maxwell et al. (2011) instead find evidence of the opposite, i.e., non-compensatory decision-making, manifested by the Elimination-by-Aspect Heuristic. When applying this heuristic, the angel starts with the perceived most important criterion for that industry or context and then disqualifies startups that do not satisfy that criterion. The process is then repeated for the second-most important criterion, and so on, until the angel has a more manageable number of options to further assess at the Due Diligence Stage, where the process is

Table 2.3: Angel Heuristics Identified in Research Stream II

Heuristic	Explanation
Anchoring and Adjustment	The tendency for angel investors to rely on an initial piece of information in such a way that all subsequent decision-making is conducted in relation to that initial piece of information (cf. Sherif et al., 1958).
Availability	The tendency for angel investors to base assumptions of frequency, probability, or typicality of an event on how easily a related example comes to mind (cf. Tversky and Kahneman, 1973).
Elimination-by-Aspect	The tendency for angel investors to perceive some startup characteristics to be more important to thoroughly examine relative to other startup characteristics, depending on the context (cf. Tversky, 1972).
Representativeness	The tendency for angel investors to perceive the outcomes of an event to have the same probability as a past event that easily comes to mind (cf. Kahneman and Tversky, 1972)

(Harrison et al., 2015; Maxwell et al., 2011)

repeated, yet more in-depth. The findings indicate that while angels actively use criteria to make decisions, they use these criteria in a sequence from most important to least important, and to a varying degree across all three decision-making stages (Maxwell et al., 2011). As such, I infer that Elimination-by-Aspect acts as a catalyst heuristic across the angel's decision-making process, i.e., the heuristic guides and influence all other heuristics.

Proposition 2.3. *Norwegian angel investors utilize the Elimination-by-Aspect Heuristic as a catalyst heuristic.*

Subsequent research has started to expand on how the four heuristics mentioned above are employed by angels, highlighting how biases can lead to heuristic activation (Chan and Park, 2015), and how trust and experience can mediate how heuristics are used (Ding et al., 2015; Harrison et al., 2015). In the following, these aspects are discussed in turn. While these examples are meager, I invite the reader to recall the previously discussed investment outcome research stream; several characteristics examined there could mediate heuristics employment, although the discussion here will only revolve around actual empirical findings.

2.3.1 Biases as Heuristic Activator

Colors are captured by the human senses automatically and are thus unlikely to lead to information overload, time pressure, or fatigue (Ambady and Gray, 2002; Friedman and Förster, 2010). Thus, colors have relevance within heuristics processing. In their study, Chan and Park (2015) examine the role of color as bias-inducing on VCs and angels in business plans, finding that the color red elicits negative emotions while the color blue elicits positive emotions. While the significance of business plans in investor decision-making is debated (e.g., Becker-Blease and Sohl, 2015; Chan and Park, 2015), because investors typically employ heuristics due to information overload (e.g., Busenitz, 1999; Zacharakis and Meyer, 2000), visual cues can significantly affect the decision-making process by leading angels to employ such cues deliberately as information (Chan and Park, 2015). Thus, it seems clear that biases and heuristics in angel investors' decision-making processes are highly interdependent, which is why I treat them as intertwined concepts in this thesis. Indeed, Chan and Park (2015) use the two terms synonymously.

Proposition 2.4. *Angel investors are biased in decision-making; a bias can activate a heuristic, and subsequently, employment of a heuristic can lead to biased behavior.*

2.3.2 Experience as Heuristic Mediator

Harrison et al. (2015) find that heuristics usage varies between less and more experienced angels. Three heuristics are found to be mediated by experience: Anchoring and Adjustment, Availability, and the Representativeness heuristics.

At the Search and Screening Stage, angels quickly decide whether to move a proposal over to the Due Diligence Stage based on what readily comes to mind and then "anchors" further assessment in that first example, indicating usage of the Anchoring and Adjustment Heuristic (Tversky and Kahneman, 1974). Irrational decision-making in this context can arise from angels setting an initially incorrect anchor, or deliberately only consider information that matches with the initial anchor (Chapman and Johnson, 2002; Harrison et al., 2015; Tversky and Kahneman, 1974).

The confidence angels express in their decision is mediated by the Availability Heuristic,

which indicates that people base assumptions of frequency, probability, or typicality of an event on how easily a related example comes to mind (Tversky and Kahneman, 1973). As such, the most experienced angels should be more confident in their investment decisions relative to the least experienced angels. More experienced angels are also inferred to make speedier decisions, mediated by the Representativeness Heuristic (Harrison et al., 2015; Kahneman and Tversky, 1972). Here, the angel's assessment of a startup is based on criteria that the angel believes are most typical - or representative - of a successful startup. Thus, experiences angels are more likely to identify perceived successful investment opportunities more quickly. (Harrison et al., 2015)

Why, then, does it exist people in the world that are either confident or make quick decisions despite limited experience? Harrison et al. (2015) argues that March et al. (1991)'s seminal paper "Learning from samples of one or fewer" may have the answer to the question. To adapt an allegory from that paper: *"A wealthy individual has never conducted angel investments before. Yet she wants to learn from her history on how to make such investments."* As such, nascent angels can substitute a lack of investment experience with experience from other domains. An example of such an experience could be an entrepreneurial background.

Proposition 2.5. *More experienced angel investors are quicker and more confident in investment decision-making. These behavioral traits may be derived from all types of experience, not just investment experience.*

2.3.3 Trust as Heuristic Mediator

Ding et al. (2015) connect the cultural dimension to the different investment stages. They emphasize that because angel investors typically have more informal relationships with entrepreneurs than VCs, their relationships are more dependent on trust and empathy (Fairchild, 2011). Trust and empathy influence the decision-making processes of angels while primarily depending on formal and informal rules of the social context (Harrison et al., 1997). The way rules and norms organize social, political, or economic relations constitute what North (1990) labels the formal and informal institutions in society. Thus, the authors find that the level of social trust is an essential component of informal

institutions and that it directly affects the transmission of information, cooperation, and sanction enforcement between individuals (Kwon and Arenius, 2010; Putnam, 1993). As such, angels' decision-making processes may vary between countries. Ding et al. (2015) propose that angels in countries with both a high level of trust, i.e., the intensity of cooperation is high, and a high radius of trust, i.e., the width of cooperation extends far, are more likely to make investments. However, in countries with a perceived high level of trust, there are often other, less risky investment opportunities than direct investments in startups (Ding et al., 2015). Therefore, angels are likely to perceive different levels of risk in different countries, and thus employ heuristics differently.

Can trust, then, be connected to any specific heuristics? Lewicki and Brinsfield (2011) argue that trust can be framed as a heuristic, and connects trust within the Representativeness, Availability, Anchoring and Adjustment, and Affect heuristics. Regarding Representativeness, if an angel associates an investment-seeking entrepreneur with a particular social or organizational category, this can increase trustworthiness (Brewer, 1981). Regarding Availability, if an angel has had numerous interactions with an entrepreneur, and these interactions have all shown a high level of trustworthiness, the angel should then be more likely to recall trustworthiness in subsequent meetings with the entrepreneur (Lewicki and Brinsfield, 2011). The authors further propose that trust can set the initial anchor in the Anchoring and Adjustment Heuristic. Lastly, they highlight that perceived trustworthy entrepreneurs can activate the Affect Heuristic, because individuals that are in a good mood tend to believe that problems are simpler, and thus requires less thorough assessment (Forgas, 1995).

Social psychologist Geert Hofstede (2011)'s Cultural Dimensions Theory provides a basis for further discussion on how culture affects angel investors' decision-making in different countries. The theory is based on factor analysis to describe the effects a country's culture has on the inherent values of a country's citizens, and it is examined by the value of six indexes: (1) Power distance: *"the extent to which the less powerful members of organizations and institutions (like the family) accept and expect that power is distributed unequally"* (p. 9), (2) Uncertainty avoidance: *"deals with a society's tolerance for ambiguity"* (p. 10), (3) Individualism vs. collectivism: *"the degree to which people in a society are integrated into groups"* (p. 11), (4) Masculinity vs. femininity: *"refers*

to the distribution of values between the genders" (p. 12), (5) Long-term orientation vs. short-term orientation: "*Values found at [the long term] pole were perseverance, thrift, ordering relationships by status, and having a sense of shame; values at the opposite, short-term pole were reciprocating social obligations, respect for tradition, protecting one's 'face'*" (p. 13), and (6) and Indulgence vs. restraint: "*a society that allows relatively free gratification of basic and natural human desires related to enjoying life and having fun*" (p. 15). Hofstede also highlights that the culture of occupations and organizations have received little research. He then draws attention to a study of his from the 90s regarding the organizational culture of Dutch and Danish firms. The most important finding in that study suggests no shared *values* between organizations, yet there was a shared understanding of *practices* between the organizations. On this basis, this thesis should investigate whether culture can influence which and in what way heuristics are employed differently by Norwegian and U.S. angels. (Hofstede, 2011)

Proposition 2.6. *Both Norwegian and U.S. angel investors employ trust as a heuristic, but Norwegian angels are induced by other aspects of trust than U.S. angels.*

2.4 Towards a Holistic Perspective on Angel Investors' Decision-Making Processes

The stages and nuances of the stages in angel decision-making and venture characteristics and outcomes of angel investment have mostly been treated as separate concepts. The central contribution of this review is to attempt to start to fill this gap. I propose that venture characteristics and investment criteria (Research Stream I, Section 2.2) are conceptually placed along the stages of the angel investment decision-making process (Section 2.1) and that heuristics are employed across the decision-making stages (Research Stream II, Section 2.3) (see Figure 2.1, p. 5).

Within the holistic view, I suggest that heuristics are intertwined with angels' employment of heuristics, either as a moderator or a mediator. At the initial Search and Screening Stage, I propose that the angel considers only the overall categories of criteria (Table 2.2, p. 8). Then follows a more comprehensive assessment of criteria within each category at the

Due Diligence Stage. While extant literature mostly suggests that every and all criteria are analyzed thoroughly, I propose that the angel carefully assess only the perceived most essential criteria, and only pays light, if any, attention to the others. The complete list of the 28 criteria mentioned previously in the review is then only an available pool that the angel can use to assess startups, rather than a mandatory checklist. Finally, at the Deal-Making Stage, the angel may assess the same criteria once more concerning peculiar term sheet aspects, control, and exit possibilities.

Past research on venture characteristics presents what should be close to a totality of possible investment criteria. As I have shown in this review, complementary research that explores the nuances of angels' decision-making processes is sparse, especially from a heuristics perspective. Research in the Norwegian context is severely lacking, and to the best of my knowledge, there is limited research that adopts a holistic perspective. In the analysis, I hope to uncover whether past research applies to the Norwegian context by examining the derived propositions (Table 2.4), as well as revealing novel aspects of angel investment decision-making.

Table 2.4: Propositions Derived From Literature Review

Proposition	Explanation
2.1	Angel investors' decision-making processes happen in three stages: Search and Screening, Due Diligence, and Deal-Making.
2.2	The Search and Screening Stage in angel investors' decision-making processes is dominated by System 1 thinking, whereas the Deal-Making Stage is dominated by System 2 thinking.
2.3	Norwegian angel investors utilize the Elimination-by-Aspect Heuristic as a catalyst heuristic.
2.4	Angel investors are biased in decision-making; a bias can activate a heuristic, and subsequently, employment of a heuristic can lead to biased behavior.
2.5	More experienced angel investors are quicker and more confident in investment decision-making. These behavioral traits may be derived from all types of experience, not just investment experience.
2.6	Both Norwegian and U.S. angel investors employ trust as a heuristic, but Norwegian angels are induced by other aspects of trust than U.S. angels.

3 Methodology

In this chapter, I present the methodological choices employed in this thesis. According to Lor (2019), the research methodology is the link between metatheory, i.e., the researcher's world-view that guides the research and method, i.e., the research design, which is the practical plan for conducting the study. Firstly, I explain my approach to metatheory and how it influences the interpretations of concepts in the study. Secondly, I present my chosen research design. Lastly, I evaluate the research by addressing practical constraints.

3.1 Metatheory: Interpretive Approach

This thesis takes an interpretive approach, emphasizing that "humans are different from physical phenomena because they create meanings" (Saunders et al., 2016, p. 140). From an ontological perspective, i.e., "nature of reality or being" (p. 140), I view individual angels as part of a complex, socially constructed reality. As such, individual angels may derive different meanings from the same phenomena in decision-making. This view is the main motivation for why I, in the Literature Review, argued that a view of angel investment decision-making as a universal, rational process is too simplistic. What this study deems as acceptable knowledge, i.e., its epistemological view (p. 140), is only to accept theories that take a holistic approach that views humans as irrational and imperfect. Following this view, values are at the core of this research, i.e., its axiological view (p. 140). My interpretations as a researcher are thus central to derive meaning from individual angels' statements. As such, the reader should be aware that this research by nature is subjective, although it must be noted that I strive not to let my subjective meanings erase that of individual angels'. This striving is manifested in that I, after an initial, exploratory analysis, follow up with a validation analysis. (Saunders et al., 2016)

The overall research method of this thesis is the qualitative approach (Saunders et al., 2016). Because little is known of the Norwegian context on angel investment decision-making, I conducted the research exploratively. To uncover the deep, subjective meanings from individuals, I collected primary data from a small sample. As such, inferences about the general angel population is derived inductively, i.e., from the individual to the general

⁴. In order to isolate inferences at the national levels, the comparative strategy employed is what Lor (2019) label as case-oriented, with a two-country comparison (Norway and the U.S.) at the center of the research design. (Saunders et al., 2016).

3.2 Method: Comparative Research Design

3.2.1 Sampling

The study employed purposive heterogeneous sampling to ensure a balanced selection of angels operating within different focus areas, fields, and industries (Saunders et al., 2016). A total of three U.S.-based angels, three Norway-based angels, and one angel with ties in both countries (the “Cross-Atlantic angel”) were recruited and interviewed (Table 3.1). I recruited angels with the help of my supervisor or others in my network. The sampling strived to represent diversity in impact areas, gender, and for how long each individual has been an investor. A balance in the diversity of the angels helps ensure that effects are attributed to the entire Norwegian angel population and not only to the selection of angels, only. (Saunders et al., 2016)

An individual was deemed as an angel investor, and as such as eligible to take part in the study, if he or she fit the angel investor definition presented in the Introduction; angel investors are high net-worth individuals that provide risk capital to startups or high growth businesses in which they have no family connection, to reap financial gain (Mason, 2006; Mason and Harrison, 1995; Wetzel, 1983).

3.2.2 Unit of Analysis

Recall that past research finds angel investment decision-making to happen across three stages: Search and Screening, Due Diligence, and Deal-Making (Mittiness et al., 2012). An angel signing an investment term sheet followed by a wire transfer of funds to a startup constitutes the culmination of the angel investment decision-making process within the scope of this research. Within this scope, I specifically looked for reasons individual

⁴There is an ongoing debate whether Grounded Theory, which I utilize, is instead labeled as abductive research, but it remains unclear.

angel investors give for rejecting investment proposals. This choice aimed to allow for comparison and to single out effects at the individual or country level. As such, an investment proposal that moves from Search and Screening and through Deal-Making without being rejected by an angel constitutes the unit of analysis in this study.

3.2.3 Data Collection

I conducted semi-structured, in-depth interviews one-on-one with angels at un-disturbed locations of their convenience. The semi-structured approach allowed for a deeper understanding of each angel and more natural conversation flow. All interviews except for one case were conducted in person. Before starting the interview, the interviewees were provided an information sheet and a consent form to be signed. I then started audio recording and stopped the recording after finishing the interview. I started each interview by reading a scripted contextual informational paragraph and then went on to ask the interviewee in question a set of 12 scripted open-ended questions (Appendix A1). The interview guide was based on insights following a precursory literature review. Some of the questions are adapted from Timothy Ferriss' book, *Tribe of Mentors* (2017). In designing the interview guide, I took care to avoid double-barrel questions, jargon, and extensive use of theoretical concepts. The questions were designed to be as open-ended as possible within the context. All angels, regardless of them being American or Norwegian, was read an introductory script and was asked the questions in English. They were, however, given the opportunity to answer in their preferred language. Throughout the interviews, I

Table 3.1: Overview of Angels Interviewed

Interviewee	Gender	Location	Experience	Type	Length	Date
U.S. angel 1	F	San Francisco Bay Area	Expert	In person	41:23	2 Aug. 2019
U.S. angel 2	M	San Francisco Bay Area	Nascent	In person	57:01	6 Aug. 2019
U.S. angel 3	M	Oregon	Experienced	Skype	42:01	15 Aug. 2019
Cross-Atlantic angel	M	Bergen Area*	Experienced	In person	49:05	29 Aug. 2019
Norwegian angel 1	M	Bergen Area	Expert	In person	56:27	25 Sept. 2019
Norwegian angel 2	F	Bergen Area	Nascent	In person	53:51	2 Oct. 2019
Norwegian angel 3	F	Bergen Area	Expert	In person	1:13:07	7 Oct. 2019

Note: I define nascent angels as angels that have not been investors for very long and have few investments. Experienced angels are those individuals that are well-established investors, while expert angels have a long track record within angel investments and ample experience.

*The Cross-Atlantic angel also invests in the San Francisco Bay Area.

stressed my interest being in the angels describing real-life incidents and stories and avoid abstract concepts. When needed, I asked probing and follow-up questions unscripted. These were gradually more specific, but I stressed to avoid biasing the interviewee by using strong adjectives in my language or excessive hand gestures. The exception was for cases in which I was unsure of what the angel meant; in such cases, I stated my interpretation of the angel's statement to confirm or disconfirm. Some interviewees gave shorter answers and elaborated less than others. In such cases, I used silence for at least four seconds to give more introvert people time to think and provide more information before I asked a follow-up question. Throughout the interview, I took handwritten notes of non-verbal and contextual information of significance. (Saunders et al., 2016)

3.2.4 Exploratory Analysis

The exploratory analysis adopted Anand et al. (2007)'s approach for structuring and writing up the theory, from which so-called first-order concepts are grounded in quotes from interviewees, several quotes are grouped into second-order concepts as dimensions, before categories are aggregated into generative theoretical elements (heuristics). For analyzing the transcribed data, I followed the process described by Glaser et al. (1968) in their original work on Grounded Theory, as this is a fitting approach when there is done little research on the subject area, and the goal of this study is to generate new theory (Saunders et al., 2016). I argue that utilizing Grounded Theory best allows for exploring nuances and interdependencies of angels' decision-making processes.

After each interview was conducted, they were transcribed and stored securely in the cloud. After that, I used the qualitative data analysis software ATLAS.ti to analyze the data. The reason I adopted Glaser et al. (1968)'s original work is that later development of Grounded Theory is hotly debated, even among Glaser and Strauss themselves. I believe utilizing Grounded Theory principles for analysis best achieves depth regarding the angels' social interactions in the real world. Before I conducted the analysis, I reviewed the original work (1968) and a practical guide by Friese (2017) that leans loosely towards Strauss (1987), and Strauss and Corbin (1990)'s approach, and adopted a hybrid approach between the two. My choice of such a hybrid approach is to leverage the debate-free roots of Grounded Theory while also acknowledging adaptations in the digital age.

Table 3.2: The Constant Comparative Method

Step	Name of Step	Description of Step
1	<i>Comparing incidents applicable to each category</i>	While reading through transcribed data, adding keyworded “tags” and more elaborate notes in a process that is labeled “open coding.” The analyst should create categories and group new codes into either existing or new categories as they emerge. While doing this, Glaser and Strauss highlight the defining rule of the constant comparative method: “ <i>while coding an incident for a category, compare it with the previous incidents in the same and different groups coded in the same category</i> ” (p.107). The author should stop and record memos as ideas about the data emerge.
2	<i>Integrating categories and their properties</i>	Here, the analyst aims to understand categories and what they mean and discovering and linking categories’ relationships. Glaser and Strauss also suggest that theoretical sampling should be done, i.e., re-collecting data when it is needed. A need for theoretical sampling should be discovered and noted down during the process of linking categories together.
3	<i>Delimiting the theory</i>	The theory forms as the analyst revise the codes, categories, and linkages continuously, removing irrelevant content, and generalize findings where possible. As such, the analyst should reduce the amount of terminology used and explain the theory with as few as overarching theoretical concepts as possible. Most important is that data collection, coding, and subsequent delimitation should stop only when there is data saturation, i.e. when new incidents are not discovered in the data.
4	<i>Writing theory</i>	Lastly, the analyst combines the chunk of coded data, categories, and memos with concepts and theory into a written text. In this thesis, this is where I combined grounded first-order concepts (quotes) and second-order dimensions into generative elements (heuristics) (adapted from Anand et al. 2007).

(Glaser et al., 1968, pp. 105-113)

In their work, Glaser et al. (1968) describe four steps for qualitative analysis that are to be followed in what they call the Constant Comparative Method (Table 3.2).

In my analysis, I adapted the Constant Comparative Method in the following way within ATLAS.ti in a simplified two-step process:

1. Pre-coding: reading through the data and using ATLAS-ti’s quoting and tagging functions to sort the data into terms, ignoring any subsequent sorting into hierarchical structures.

2. Open coding: after coding (tagging in ATLAS.ti) an interview, I refined the code names. Then I refined the codes and sorted them into rough categories. I also used ATLAS.ti's in-built hyperlink tool to highlight relationships between codes, highlighting whether two codes explain, discuss, contradict, or are supporting statements. I then repeated the same process for the next interview while taking care to continuously compare new codes to previous codes, refining codes and categories continuously, and adding new or refining hyperlinks. When relevant, I used ATLAS.ti's comment function to write personal reflections as for a particular code. I used the software's Memo tool to write full-fledged memos related to more than a single code when applicable.

After delimitation of findings resulting from the above two-step process, I followed step four of the constant comparative method as described above (Table 3.2).

3.3 Evaluation of Research

3.3.1 Practical Constraints

Significant time was spent on recruiting, scheduling, conducting, and transcribing interviews. For the U.S. data set, three angels were relatively easy to recruit through my network in the San Francisco Bay Area. Because I worked at an internship and attended school classes while staying in the San Francisco Bay Area in addition to working on my thesis, the U.S. part of the data set is not larger than three angels. Interestingly, it was harder to reach Norwegian angels directly through my network, but the process went relatively swiftly when I leveraged local networking organizations in Bergen. In addition to the Cross-Atlantic angel, I opted to interview the same number of Norwegian angels as U.S. angels both for practical and analytical purposes. Although I initially wished for a larger total data set than seven participants, conducting the research solo was daunting; each interview took about seven hours to transcribe, and I ended up with a complete transcript exceeding 50,000 words.

When conducting interviews, I met at an angel's office address only once. As a result, some of the interview locations were not entirely unobtrusive, which could have influenced

the quality of the answers. Unfortunately, I do not think that better locations could easily have been obtained, as most angels seemed to travel frequently and preferred to schedule interviews together with other meetings. Also, most angels did not seem to have a specific business address. One interview in the U.S. had to be conducted over Skype because the angel was located in Oregon while I was located in the San Francisco Bay Area.

3.3.2 Quality of Research Design

While reliability and internal and external validity have long been the standard measurements of the quality of research in quantitative studies, a debate exists on whether the same valuation criteria are applicable in qualitative research. Yazan (2015) highlight the discussion by examining scholars Yin, Merriam, and Stakes' arguments on the subject and find that these researchers have differing opinions, with two of them employing validity and reliability, while Stake uses "triangulation" of data. Because of the ongoing debate and confusion, I return to the original pivotal publication of Lincoln and Guba (1985) and their proposition that trustworthiness is what determines a qualitative study's worth.

Four criteria are proposed to evaluate the quality of qualitative research: credibility (that there is "truth" in the findings), transferability (that the findings are applicable in other contexts), dependability (the findings are available for other researchers to audit, are consistent, and can be repeated in subsequent research), and conformability (that the research is sufficiently objective). (Lincoln and Guba, 1985)

Credibility

Before making the interview guide, I spent ample time reviewing the popular literature on startup financing and discussing the angel investment phenomenon with my supervisor, who himself is a pioneer within entrepreneurial research at the Norwegian School of Economics. As is evident so far in this section, my research has followed general methodological guidelines for conducting business studies (Saunders et al., 2016), Grounded Theory to analyze the data (Glaser et al., 1968) and adapted a best-practice qualitative research paper for writing up and presenting the theory (Anand et al., 2007). By using the

Constant Comparative Method, I also uncovered direct contradictions in the data, ensuring conformity in the findings within my data set, uncovering deviant cases. After finishing the exploratory analysis, I conducted follow-up meetings with all of the Norwegian and the Cross-Atlantic angel to assess the strength of my findings (Chapter 5: Validation Analysis).

Transferability

Because of the unique nature of angel investors, and further the small community of Norwegian angels, my findings are unlikely to be applicable outside of the Bergen Area and the San Francisco Bay Area and Oregon. They should, however, be of use to entrepreneurs seeking funding within this space and for other stakeholders, such as government agencies and policy-makers.

Dependability

Throughout the methodology section and in the Appendix, I have made available the interview guide and other relevant material to allow other researchers the ability to audit. The way I asked questions and probed for answers have also been made available in the methodology section.

Conformability

As all research arguably is influenced by the subjectivity of the researchers, full objectivity is also not expected in this research, especially during non-scripted follow-up questions and probing during interviews. In presenting the analysis, I ground second-order dimensions and generative heuristics and direct situations (first-order concepts), aiming to reduce researcher bias during analysis. However, as I was the only coder and interpreter of the data, some researcher bias is expected. Because two of the Norwegian angels opted to answer in Norwegian and not in English, some bias may exist in my translation of their answers. For reference, I include the original language of quotations in the Appendix.

3.3.3 Ethical Considerations

Throughout the thesis process, I recognized the severe consequences a data breach could have on both an angel as a private person due to leakage of sensitive data, and consequences on the angel's business due to leakage of confidential data. I obtained written consent from all angels before participation. Before they signed, I made sure that they were provided all relevant information regarding their rights and obligations in taking part in the research. The angels were allowed to correct the transcripts for any mistakes on my part as a researcher. All transcriptions and transcribed word files were stored securely in Google Drive and cannot be linked to an angel's name. Also, the audio file and the corresponding audio file did not bear the same file name. Except for the angel in question, none others than myself and my supervisor had access to the data. Upon publication of the thesis, all audio and transcription data were deleted permanently. I thus strived to protect the anonymity and privacy of the participating angels and submitted to the guidelines of the NSD (Norwegian Centre for Research Data) for all angels.

4 Findings: Exploratory Analysis

This chapter presents and discusses the findings from the exploratory analysis. I confirm past research findings in a Norwegian context, and I expand on past research by proposing three additional novel heuristics (Table 4.1). I did not capture past research' proposition of the presence of the Representativeness or Anchoring and Adjustment heuristics; however, these heuristics might have been captured in a larger dataset. However, it was unclear whether angels conduct investments across the Search and Screening, Due Diligence, and Deal-Making stages (Proposition 2.1). Therefore, I present the identified heuristics outside the frame of the three-stage decision-making process. In the following, I illustrate how each heuristic is grounded in quotes (first-order concepts), how quotes form elements (second-order dimensions), and how elements together comprise a heuristic (generative element) (Anand et al., 2007).

Table 4.1: Proposed Heuristics Employed by Angels in the Dataset

Heuristic	Explanation
Personal Relevance*	The tendency for angel investors to prefer to invest in startups that match their preferences of industry, growth potential, and turf of expertise.
Affect	The tendency for angel investors to treat their mood as information when assessing investment opportunities (Forgas, 1995; Lewicki and Brinsfield, 2011).
Confirmation Bias	The tendency for angel investors to focus on startup characteristics that affirm their existing beliefs of what characterizes successful startups (cf. Plous, 1993).
Elimination-by-Aspect	The tendency for angel investors to perceive some startup characteristics to be more important to thoroughly examine relative to other startup characteristics, depending on the context (Maxwell et al., 2011).
Social Cost*	The tendency for Norwegian angel investors to perceive a higher risk of product-market fit failure relative to U.S. angel investors, because of a perceived higher social cost of failure in Norwegian society relative to U.S. society.
Availability	The tendency for angel investors to base assumptions of frequency, probability, or typicality of an event on how easily a related example comes to mind (cf. Tversky and Kahneman, 1973).
Deference-towards-the-Archangel*	The tendency for older or more experienced angel investors to be more hands-on and directive with their investments.

* indicates the emergence of a novel heuristic that is not present in existing theory

4.1 Personal Relevance Heuristic

The data reveals that before the angel starts to employ firm characteristic criteria, they first determine whether an investment opportunity fits their interest areas, employed as a Personal Relevance Heuristic. Three dimensions manifested themselves regarding this heuristic: (1) industry, (2) growth potential, and (3) turf of expertise (Figure 4.1).

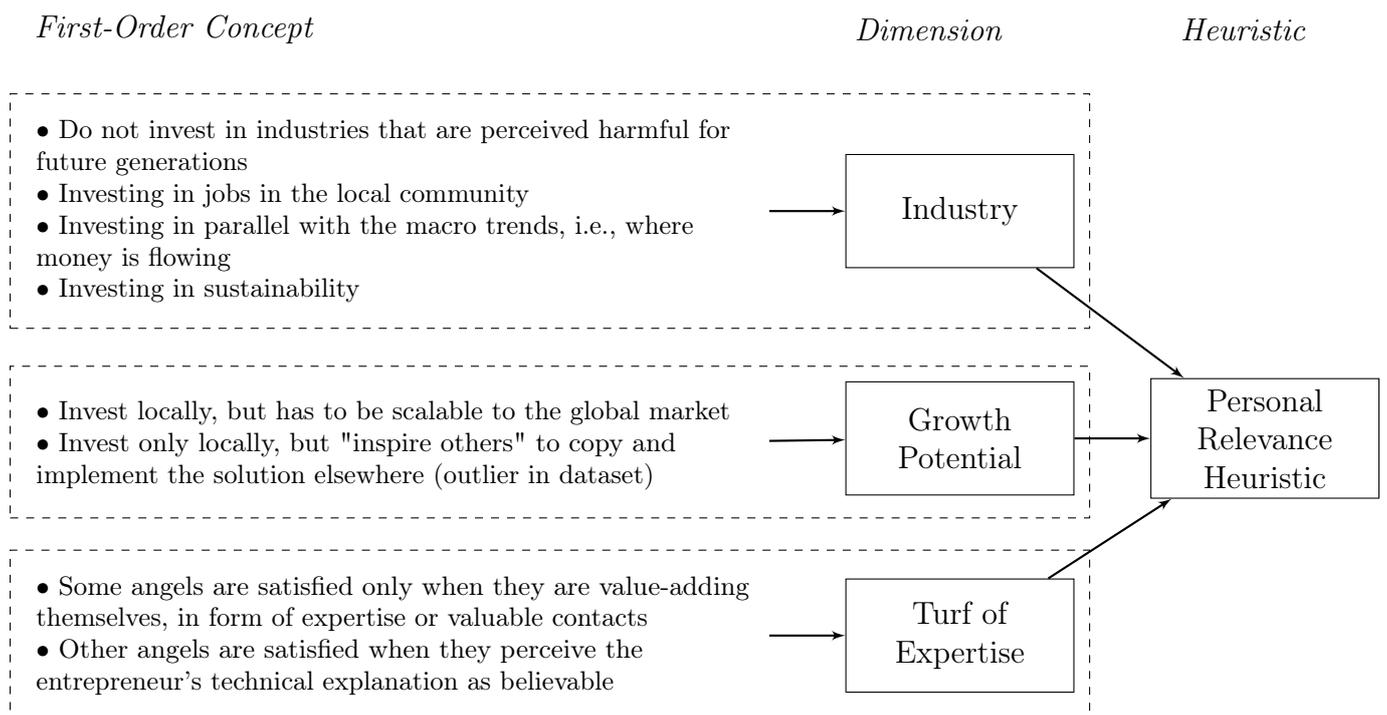
The first dimension concerns which kind of startups that angels are interested in investing in, attested at the industry level. All angels stated sustainability in one form or the other as an area they have invested in or would in which they would like to invest. Some angels invest in sustainability because they would like to see change within that space. In contrast, others believe sustainability is a space in which money is increasingly flowing into and believes that is where the economy will grow the most. Also, angels described unique reasons for their preferred investment areas, such as local job creation or not investing in solutions that are perceived as harmful for future generations. Some angels in the data were more skeptical than others towards unfinished products or solutions that would require them to take on research risk. One of the American angels states that the entrepreneur must have both a product and existing sales, while the Cross-Atlantic angel blatantly explains that he believes it is the government's responsibility to take research risk, and not private investors. While each angel's perception of research risk is individual, the notion that the government is responsible for research seems strictly Norwegian in my dataset.

The second dimension concerns *growth potential*. Although angels seem to invest only in areas that interest them, I found angels in the data to also screen based on growth potential. Some of the angels are highly profit-oriented, while others are more philanthropic oriented. The former type of angels often requires that a startup has to be scalable to a global level, while the latter believes that it is enough for a startup to inspire others to change globally. Generally, most angels are not exclusively profit-seeking, because they would be better off financial return-wise by placing their net worth in other places than in startups, indicating that angels conduct angel investments because they would like to. Thus, angels that state a preferred scope that is either strictly profit-maximizing or strictly philanthropic are likely to be statistical outliers, as would be the case for one of my U.S.-based angels. Still,

all angels in my data are profit-seeking; even the most philanthropic angel requires a financial return that is at least large enough to continue to invest in impact initiatives.

The third dimension concerns *turf of expertise*. Angels in the data had widely different opinions on whether they had to know the industry they invested in or not. Some angels stated that they do not have to understand all the technical aspects of the startup, but prefers to invest where they can offer perspectives on strategy and the market. Others have personal expertise as a hard criterion and only consider investments in which they can be value-adding.

Proposition 4.1. *Angel investors employ a Personal Relevance Heuristic, i.e., the tendency for angel investors to prefer to invest in startups that match their preferences of industry, growth potential, and turf of expertise.*



Each *First-Order Concept* is grounded in angel quotations. Due to space and readability concerns, these are not included in any of the heuristic figures in the text; see Appendix A3 for data extracts regarding each heuristic. *Dimension* comprises of second-order concepts. *Heuristic* is the generative element comprising of first-order concepts and second-order dimensions. The illustration technique is adapted from Anand et al. (2007).

Figure 4.1: Personal Relevance Heuristic

4.2 Affect Heuristic

The angel and entrepreneur's first interaction is often the pitch. In my dataset, I discovered that the behavior of the pitching entrepreneur affects the screening process because other, quality information about firm characteristics is often lacking or ambiguous. The affection, or mood and feelings the angel experiences when watching the pitch, and the subsequent evaluation of the entrepreneur's trustworthiness, can, therefore, influence the screening decision. Such behavior is manifested in a heuristic when the angel uses affection as a substitute for information, i.e., in an Affect Heuristic (Forgas, 1995; Lewicki and Brinsfield, 2011).

In the data I identified three dimensions that comprises the Affect Heuristic: (1) how conceivable the entrepreneur's explanation of the startup's proposed solution is, (2) the entrepreneur's non-verbal communication, and (3) how the angel leverages tacit knowledge, such as intuition, to let "gut feel" influence decision-making (Figure 4.2). Because angels mostly talked about how their mood guides decision-making at pitches, the discussion revolves around the pitch setting.

The first dimension constitutes how conceivable the angel perceives the startup to be. When pitching, the entrepreneur needs to be able to explain the proposed venture in an easily understandable way, and what they need money for, in a way that the angel understands even when she does not have the technical competence. Entrepreneurs that are perceived as structured thus invoke positive affection. Entrepreneurs that seem unstructured are, on the other hand, perceived to be less able to sell the product, and the risk of not having product-market fit is perceived as higher. Generally, the more an entrepreneur enables an angel to ask follow-up questions on how the startup is going to achieve a proposed solution rather than on what the solution is, induces a good mood within the angel.

The second dimension concerns how *non-verbal communication* from the entrepreneur at the pitch influences the angel's mood. Entrepreneurs that have perceived high enthusiasm, entrepreneurial spirit, understand the market, and are excellent ambassadors for the proposed product induced positive affection amongst angels in my dataset. If the angel perceives the entrepreneur as a person, they could not connect with at a personal level

outside of a professional relationship, which creates negative affection. The entrepreneur is perceived as further unlikeable if they seem untruthful or as lying. Almost all angels explicitly state that they rely on their “gut feel” when assessing the entrepreneur or team.

The third dimension concerns *intuition*, in which a general "gut feel" that the angel cannot attribute to any specific startup or entrepreneur characteristics creates a mood that influences the decision. In my data, I find that angels intuitively perceive some aspects as more likely for success than others. Almost always, angels state that a good team always beats a bad team, even with an inferior product. Such intuition is built up over time with experience, and is, therefore, tacit (Combley, 2011). In my data, older and more experienced angels were both quicker and more confident in decision-making (Proposition 2.5) from gut feelings. Thus, this finding is in support of Proposition 2.5.

Proposition 4.2. *Angel investors employ an Affect Heuristic, i.e., the tendency for angel investors to treat their mood as information when assessing investment opportunities.*

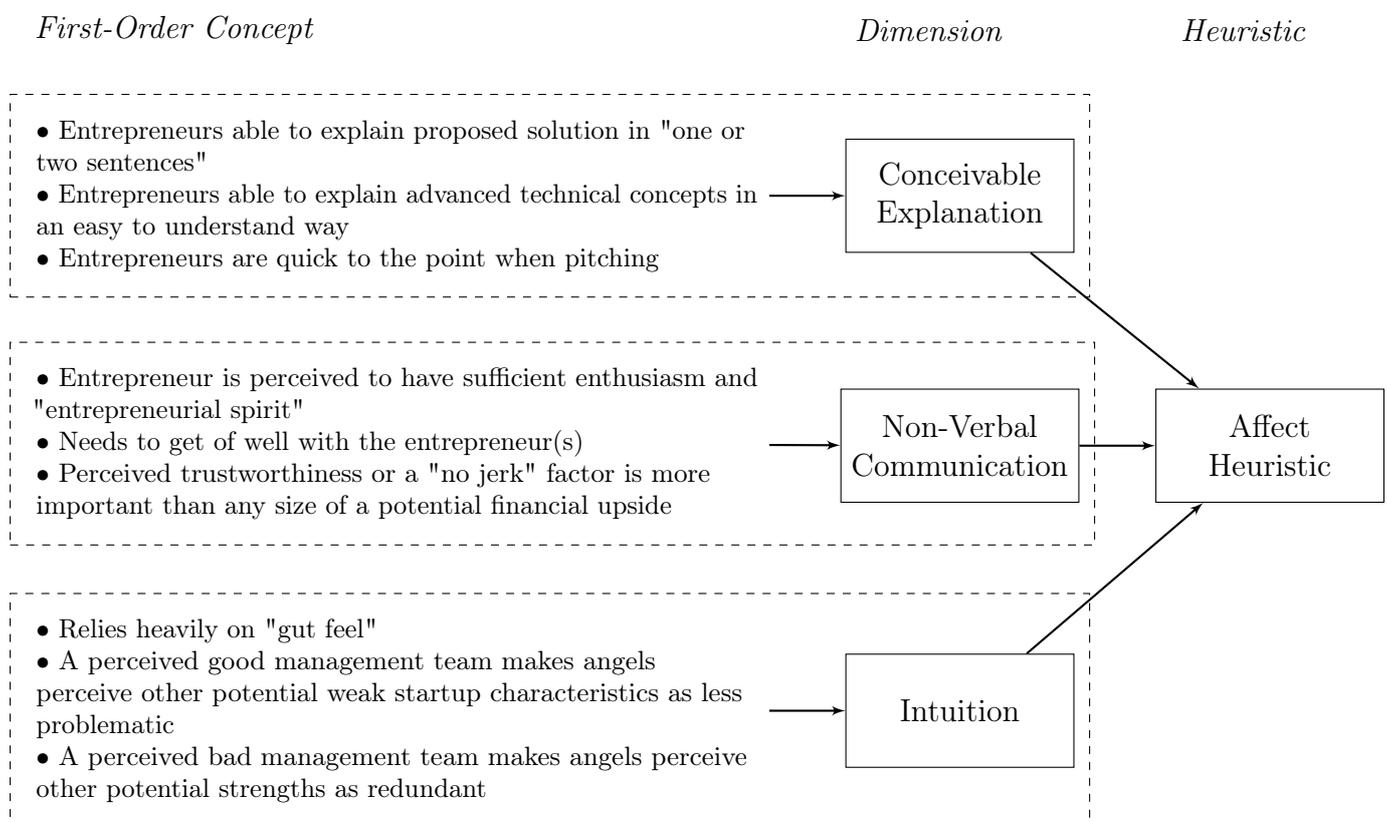


Figure 4.2: Affect Heuristic

4.3 Confirmation Bias

Another aspect that was uncovered in the data was that angels seek to confirm their existing beliefs. I propose this effect is manifested in a Confirmation Bias, a well-known cognitive bias in the literature. Within the context of angel investments, I define it as the tendency for angel investors to focus on startup characteristics that affirm their existing beliefs of what characterizes successful startups (cf. Plous, 1993). I identified three dimensions that I argue constitute angels' Confirmation Bias: (1) team, (2) product-market fit, and (3) planning (Figure 4.3). The three dimensions are essentially three broad startup categories of startup characteristics that angels have beliefs about. Thus, the following discussion focus on beliefs angels have about successful startups within the three dimensions. In essence, I argue that for each time the angel does not affirm existing beliefs, the perceived investment risk increases.

The first dimension concerns the *team*. Here, angels in the data stated that they are

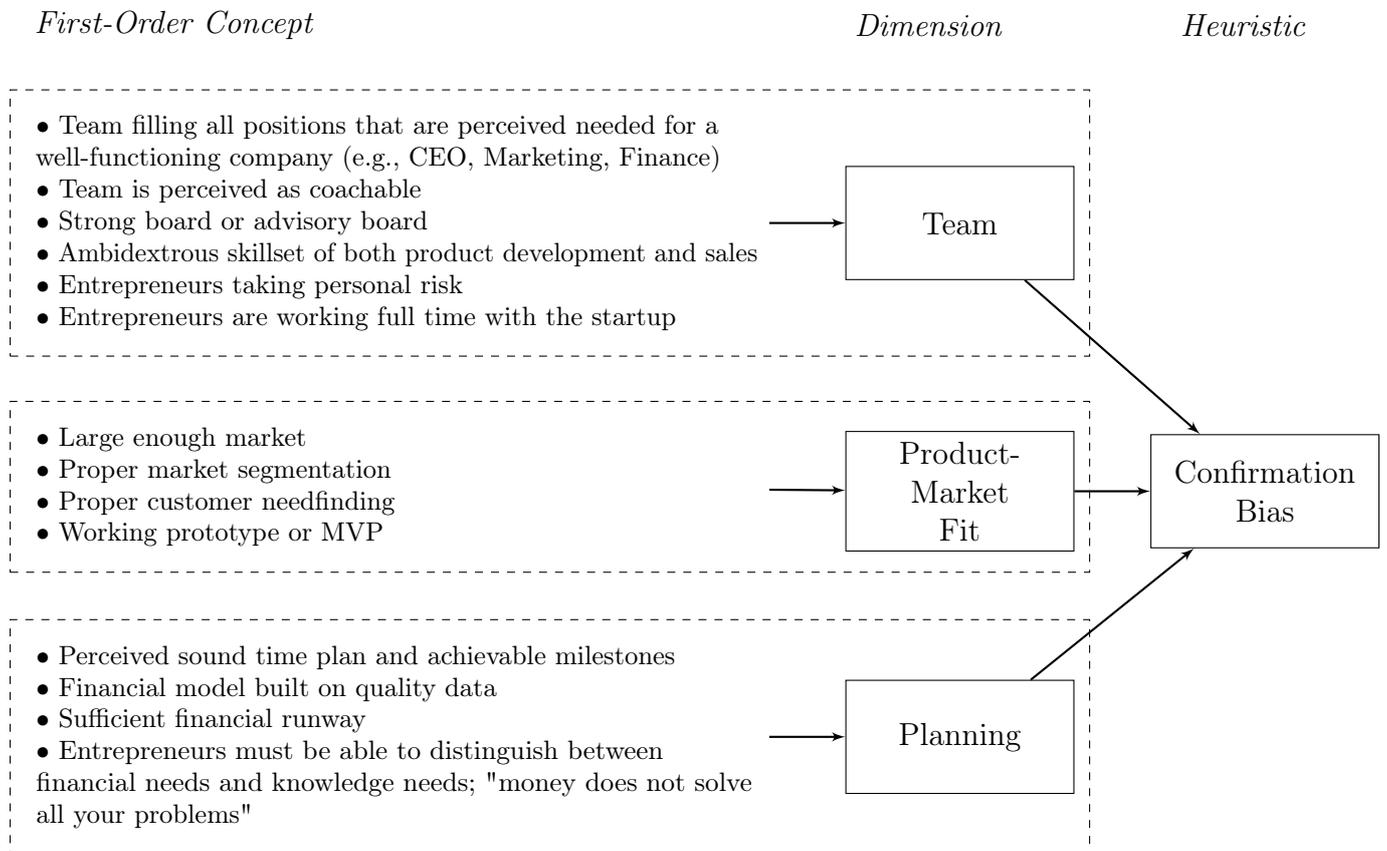


Figure 4.3: Confirmation Bias

interested in experience and competence, team interdependencies, and entrepreneurs that take on personal risk.

Initially, the angel looks to affirm beliefs regarding required competence, often education or industry experience. Then the angels in the data tended to examine the extended team, such as an advisory board. Further, I found angels to examine entrepreneurial teams' combined personalities; essentially, any team must have the combined knowledge to both solve the technical side and the sales side of a startup. If a gap in knowledge is discovered but is not critical enough to cut off contact, the entrepreneur must provide a concrete plan for how they will fill the knowledge gap. Entrepreneurs that have deliberately left their jobs are perceived as lower-risk because such entrepreneurs are seen as both to believe more in their proposed solution and as having the right skills. Angels often perceive a team as better than a solo entrepreneur, but smaller, more diverse teams are perceived as the lowest risk. Also, several angels stated that a high-quality team is always the most crucial firm characteristic, even if the startup is faced with fierce competition in the marketplace.

Interestingly, while in general, all the angels state a lack of education or industry experience as negative, one of the American angels diverges partially from this view by being skeptical towards graduates from elite educational institutions. The stated reason is that graduates from elite education institutions are perceived to be less hard-working than others. I did not find any such indications in the rest of the dataset.

Teams that do not seem able to work together are perceived as higher risk. Numerous angels in the dataset assessed a team's ability for teamplay and coachability. As was highlighted in the Literature Review, angels are concerned about agency risks, such as Moral Hazard, e.g., entrepreneurs taking more risk because they are burning the angel's capital and not their own capital; or Adverse Selection, e.g., entrepreneurs' possessing hidden information in a negotiation (Maxwell and Lévesque, 2014). A coachable entrepreneur would then reduce the perceived agency risk by, for example, sharing what they are working on or asking for help. Even though the Cross-Atlantic angel prefers to be as passive investor as possible, he still provides tap-in into his network or provides other assistance, as this is perceived to increase the startup's chances of success. It should be noted, however, that there is a tipping point where the entrepreneur can ask for too much help; if the

entrepreneur asks too much, then the entrepreneur may seem either un-skilled or as misusing the funding, then increasing perceived risk. Still, coachable teams are, in general, seen as better at iterating on new information, and are thus lower-risk investments.

If the entrepreneur does not work full time, the angel is concerned that the entrepreneur does not have the passion, staying power, or will work hard enough to succeed. A way for the entrepreneur to decrease perceived risk apart from working full time is to take on additional personal risk, such as taking out a loan on their house. They can also substitute taking on personal risk with a high level of perceived passion and grit to go all-in on the startup.

The second dimension of the Confirmation Bias, *product-market fit*, concerns the proposed solution, the market, or the understanding of the interdependence between product and market. Firstly, the market itself needs to support a new venture and be big enough, or the angel does not perceive there to be a need for a proposed solution that a large enough pool of customers would want to buy. Thus, if the entrepreneur is not able to set the boundaries for and describe the market and who their target customer is, clearly and coherently, the opportunity is considered as higher risk. The reason why most angels in the data seemed to emphasize market size is that the angel already at the pitch considers perceived exit possibilities. A profitable future exit is perceived as more likely if there is a solution or product that is already made and tested in the market.

Secondly, angels in the data perceived investments that have some form of external validation as lower-risk. Frequent examples include a product-market fit test or an active board or advisory board. Norwegian angel 2 has a high baseline risk level regarding external validation because she believes entrepreneurship is hyped in Norway at the moment, to the point where many people that should not become entrepreneurs found startups regardless. If entrepreneurs then can attract a high-quality, distinguished board, this is a signal that an entrepreneur is serious and not "riding the hype."

The third dimension, *planning*, concerns beliefs angels have about entrepreneurs' ability for financial planning and time planning. Angels stated the importance of being able to understand the need for, and plan accordingly, for resources: "I think oftentimes a lot of entrepreneurs believe that they need money and actually they don't, they maybe need advice or some other kind of, like, partnership or support that wouldn't just come with

money. I think it's easy to think that money is going to solve your problems," says U.S. angel 2, highlighting the importance of proper resource-need identification.

Time planning concerns the way the entrepreneur assesses customer needs, and more generally, how they communicate with the angel about the proposed venture. If the entrepreneur fails to explain these factors, angels in the data describe such entrepreneurs as not understanding how they are going to solve the problem their startup proposes to solve; thus, the perceived risk increases. Entrepreneurs that have already "been on their own for a while" (U.S. angel 3) and can show that they have met targets and milestones are perceived as lower-risk investments. Angels confirm this belief by having follow-up meetings with entrepreneurs until they are either satisfied or cuts off contact.

Teams that may face competition but have an apparent and coherent description of what their unique selling points are and have a very concrete and believable plan for how they are going to execute are perceived as more likely to be able to scale and beat the competition, regardless of them being first- or second-movers. However, in cases where there is some ambiguity, angels are more concerned when dealing with first-movers, because such startups are perceived to make more mistakes that prospective second-movers then can observe and avoid, and thus beat the startup to market.

Regarding financial planning, I also found angels to have beliefs about what constitutes good financial planning, especially regarding prospected sales and cash burn ("runway"). In the data, angels claimed that although they want projections to be as close to reality as possible, most believed that any projection is optimistic. Norwegian angel 2 explicitly stated that too little optimism is perceived as equally negative as too much optimism. Another example is Norwegian angel 1, who conducts his own calculation of runway and compares this to the entrepreneur's projection, and perceives the financial risk thereof. What capital the entrepreneur has already attracted also affects perceived risk. I found angels to view capital from friends and family ("dumb" capital), as much riskier than capital from distinguished investors and financial institutions ("smart" capital). Good financial models project sales based on quality data and not general market assumptions.

Proposition 4.3. *Angel investors rely on a Confirmation Bias, i.e., the tendency for angel investors to focus on startup characteristics that affirm their existing beliefs of what characterizes successful startups.*

4.4 Elimination-by-Aspect Heuristic

The Literature Review proposed that, because of information overload (e.g., Busenitz, 1999; Zacharakis and Meyer, 2000), angels do not utilize every available assessment criteria nor compute a weighted score for every startup proposal they receive. Instead, angels rely on the Elimination-by-Aspect Heuristic, in which they limit their focus and spend more mental effort on the perceived most important screening criteria (Maxwell et al., 2011). As such, angels are able to eliminate most of their received investment opportunities quickly, and reserve most of their attention to the remainders.

The reader may here observe that the Elimination-by-Aspect Heuristic seems similar to the previously discussed Confirmation Bias. The Confirmation Bias focus more broadly on angels' beliefs about success, while the Elimination-by-Aspect Heuristic directly concerns criteria. This similarity is manifested in my data; angels may be biased in criteria selection. The finding illustrates the interdependent nature of biases and heuristics; the reliance on one can lead to the employment of the other (Proposition 2.4). As such, I recommend this proposition to be accepted.

Therefore, the discussion focus on aspects apart from biases that induce angels to change which criteria they emphasize. In the data, I identified three such dimensions: (1) industry, (2) individual preferences, and (3) how angels' networks influence their assessment (Figure 4.4). However, I did not find evidence in my data that angels utilize Elimination-by-Aspect as a catalyst heuristic (Proposition 2.3).

The *industry difference dimension* is highlighted by angels stating that they identify the most important criteria based on which industry the proposed startup is within. Angels in the data deemed a criterion as significant within an industry if scoring high on that criterion is perceived to increase the chance of obtaining a competitive advantage. An example of a criterion selected as most important because of the industry would be to acquire patent rights within the pharmaceutical industry.

The *individual preference dimension* reveals that if an investment has certain aspects of it that the angel likes, then the angel is likely to overlook minor flaws related to other firm aspects. Angels have the opportunity to do this both because they invest their private wealth, but also because they often deliberately put themselves in positions in which they

are not reliant or subject to other investors or stakeholders. As such, angels in the data admitted that they might select a criterion solely based on subjective beliefs.

The *angel network dimension* manifests itself by angels' networks influencing the perceived importance of criteria, either by deliberate action from the angel, or more unconscious, normative behavior. An example in the data of intentional action is angels actively seeking people they trust to deem which criteria are most important. For instance, Norwegian angel 2 has limited economic competence, and thus actively seeks input from others in her network. On the other hand, I identified cases in which angels recall that they have submitted to other angels' ranking of criteria importance rather than making up their own mind. Still, angels in the data expressed some skepticism towards such herd behavior in hindsight. For example, several angels reflected upon events where they had been a last-minute follower investor without doing proper due diligence, often due to co-angels' enthusiasm. The trend in the data seems to be that too much normative behavior generally leads to bad investment experiences, such as being watered out.

Proposition 4.4. *Angel investors employ an Elimination-by-Aspect Heuristic, i.e., the tendency for angel investors to perceive some startup characteristics to be more important to thoroughly examine relative to other startup characteristics, depending on the context.*

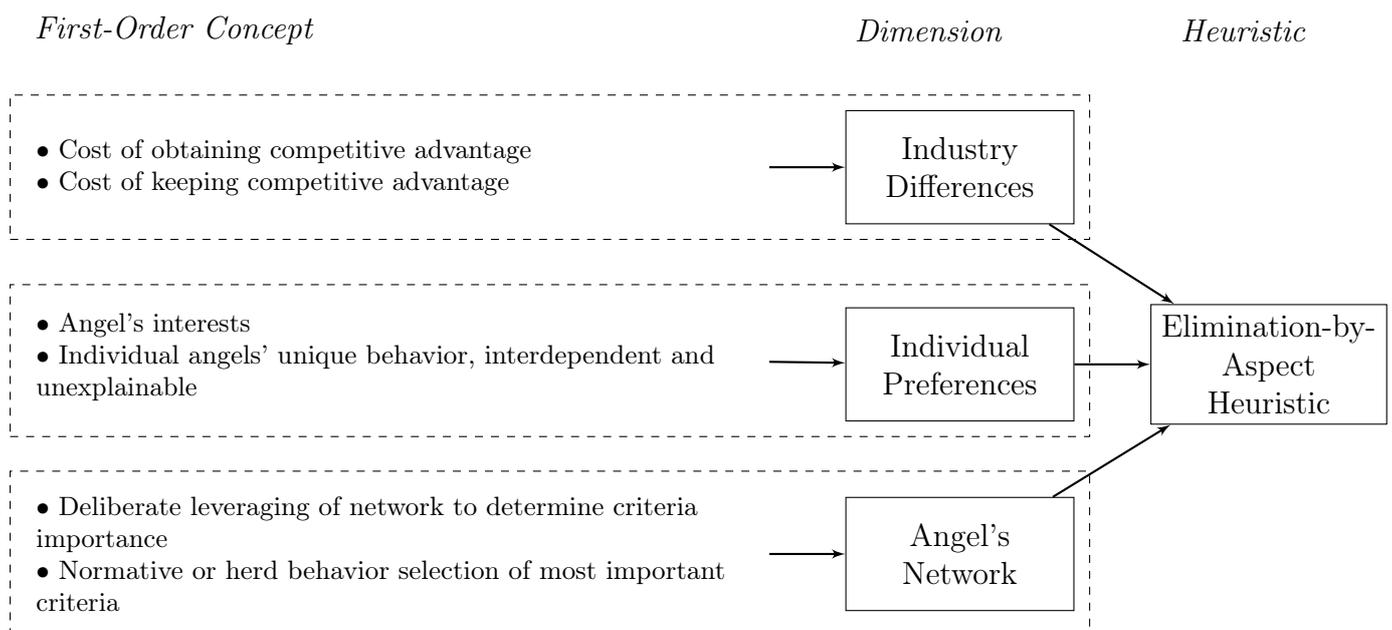


Figure 4.4: Elimination-by-Aspect Heuristic

4.5 Social Cost Heuristic

While coding the data, I discovered a pattern regarding product-market fit that seems unique to Norway; Norwegian angels may have a higher baseline perception of how long it will take an entrepreneur to seek market validation relative to that of the U.S. The higher baseline perceived risk level is attributed to Norwegian society, in general, having a higher negative perception of deviant behavior, such as entrepreneurship. I label this phenomenon as a Social Cost Heuristic. The heuristic is grounded in three dimensions (Figure 4.5). The first one builds on both U.S. and Norwegian concepts regarding angels' preference for entrepreneurs that can seek, and then iterate, on new information. The second dimension highlights the Norwegian context, built on Norwegian angel 3's perception of a high social cost of entrepreneurship in Norway. I triangulate this proposition in the third dimension, which constitutes extant research on cultural differences between nations.

The *iteration dimension* constitutes of angels' preference for entrepreneurs that continuously iterate on information and seek product-market fit. At the core of the dimension lies the angel's assessment of the entrepreneur's ability for learning. If the entrepreneur has failed in the past, angels focus on how the entrepreneur has learned from

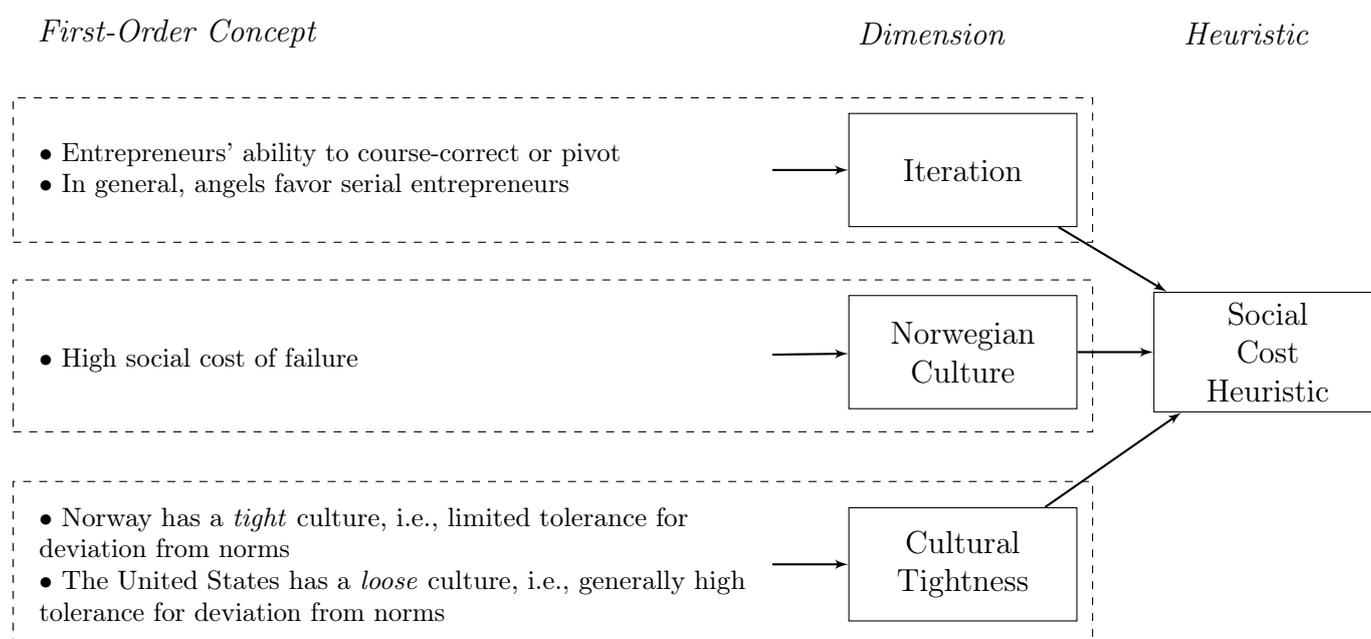


Figure 4.5: Social Cost Heuristic

failure, hereunder the ability to course-correct or reflect upon what to do differently next time. These aspects infer that failure in itself is not a criterion or fatal flaw, but is rather used as a stepping stone for the assessment of perceived product-market fit risk. When angels in the data reflected on their assessment of past failure, they mostly highlighted the importance of uncovering if it was just bad luck or incompetence from the entrepreneur's side. If listening to an entrepreneur's assessment of past failure, angels favor explanations that show that the entrepreneur did not double down on a wrong product or market, but instead pivoted, or other commitments such as cleaning up internal team conflicts. Furthermore, angels, and especially Norwegian angels, perceive the risk of investment as lower when investing in serial entrepreneurs than first-time entrepreneurs, even if the serial entrepreneurs have failed. The reason is that serial entrepreneurs are perceived to know what most of the pitfalls are, and their personality is perceived to be more risk-prone, and as such, go to the market and test a solution earlier.

The *Norwegian culture dimension* highlights a generally negative perception of failure in Norwegian society. The dimension should, though, not confuse the reader to infer that Norwegian angel investors view an entrepreneur's past failure as unfavorable or as fatal. Quite the opposite is evident from the discussion above in the iteration dimension. The reason, then, for why past failure can be problematic for angels is not related to actual past failure, but to what Norwegian angel 3 claims is a main difference between the U.S. and Norway. She argues that the social cost of failure is much larger in Norway, which leads to entrepreneurs waiting much longer before they bring an initial prototype to market to test it. Therefore, I infer that Norwegian angels have a much higher baseline perceived product-market fit risk compared to that of the U.S. As such, seed funding may be harder to obtain in Norway than in the U.S.

The third dimension, which I label *cultural tightness*, comprises data on cultural tightness vs. looseness (Gelfand et al., 2011), and supporting cultural dimension data (Hofstede, 2019a,b). Tight cultures are defined as cultures "with many strong norms and low tolerance of deviant behavior," whereas loose cultures "have weak social norms and a high tolerance for deviant behavior" (Gelfand et al., 2011, p. 1100). The U.S. has a dominantly loose culture, while Norway has a dominantly tight culture (Table 4.2). As such, I infer that despite the increased popularity of entrepreneurship in Norway, the country's culture

makes entrepreneurship less socially acceptable relative to that of the U.S. (Gelfand et al., 2011). Cultural Dimension Theory data further support these findings; although norms play an important role in both countries, Americans are more practical than Norwegians and focus more on what is universally "right and wrong" than how they should behave in each social interaction (Hofstede, 2019a,b).

Proposition 4.5. *Norwegian angel investors employ a Social Cost heuristic, i.e., the tendency for Norwegian angel investors to perceive a higher risk of product-market fit failure relative to U.S. angel investors, because of a perceived higher social cost of failure in Norwegian society relative to U.S. society.*

Table 4.2: Tight vs. Loose Cultures

Nation	Data Collection site(s)	Survey Language	Number of Participants	Mean Age \pm SD	Percentage Female	Percentage Students	Tightness Score
Norway	Bergen	Norwegian	252	31.8 \pm 11.0	56.7	46.0	9.5
India	Ahmedaban, Bhudneswar, Chandigarh, Coimbatore	Hindi	222	27.8 \pm 9.6	54.1	52.3	11.0
Japan	Tokyo, Osaka	Japanese	246	33.2 \pm 14.9	55.7	48.8	8.6
Singapore	Singapore	English	212	26.1 \pm 6.7	59.9	49.1	10.4
South Korea	Seoul	Korean	196	26.2 \pm 7.5	61.2	73.5	10.0
Turkey	Istanbul	Turkish	195	32.0 \pm 14.4	53.3	45.6	9.2
USA	Washington, DC; Maryland; Virginia	English	199	31.4 \pm 13.7	60.3	48.2	5.1
Australia	Melbourne	English	230	25.4 \pm 10.0	69.1	63.9	4.4
Belgium	Leuven (Flanders region)	Dutch	138	33.3 \pm 14.3	73.2	50.7	5.6
Greece	Athens	Greek	275	30.9 \pm 11.3	56.7	45.1	3.9
New Zealand	Wellington	English	208	29.9 \pm 13.0	64.4	61.1	3.9
Spain	Valencia	Spanish	172	30.2 \pm 9.6	66.9	40.1	5.4

Adapted from Gelfand et al. (2011). The original study contains 33 nations; included here are only Norway, the U.S., five nations that have similar tight cultures to Norway (tightness scores), and five nations that have similar loose cultures to the U.S. (tightness scores).

4.6 Availability Heuristic

In the data, I found an angel's past experiences to cause reliance on the Availability Heuristic. The heuristic concerns situations in which the angel weighs information that is easy to recall as more essential or probable, such as past experiences with similar investment opportunities (cf. Tversky and Kahneman, 1973). In my data, I found the Availability Heuristic to manifest itself in three dimensions: angels' past experiences regarding (1) entrepreneurs trying to induce them to close a deal fast, (2) co-investors trying to induce them to close a deal fast, and (3) entrepreneurs' own valuation of the proposed startup. Across the dimensions, my data supports that older and more experienced angels are more confident in utilizing this heuristic in decision-making (Proposition 2.5).

The first dimension concerns angels' skepticism towards entrepreneurs that try to induce them to close a deal fast. I found this skepticism to stem from angels' negative past investment experiences in which the worst-performing investments were those in which

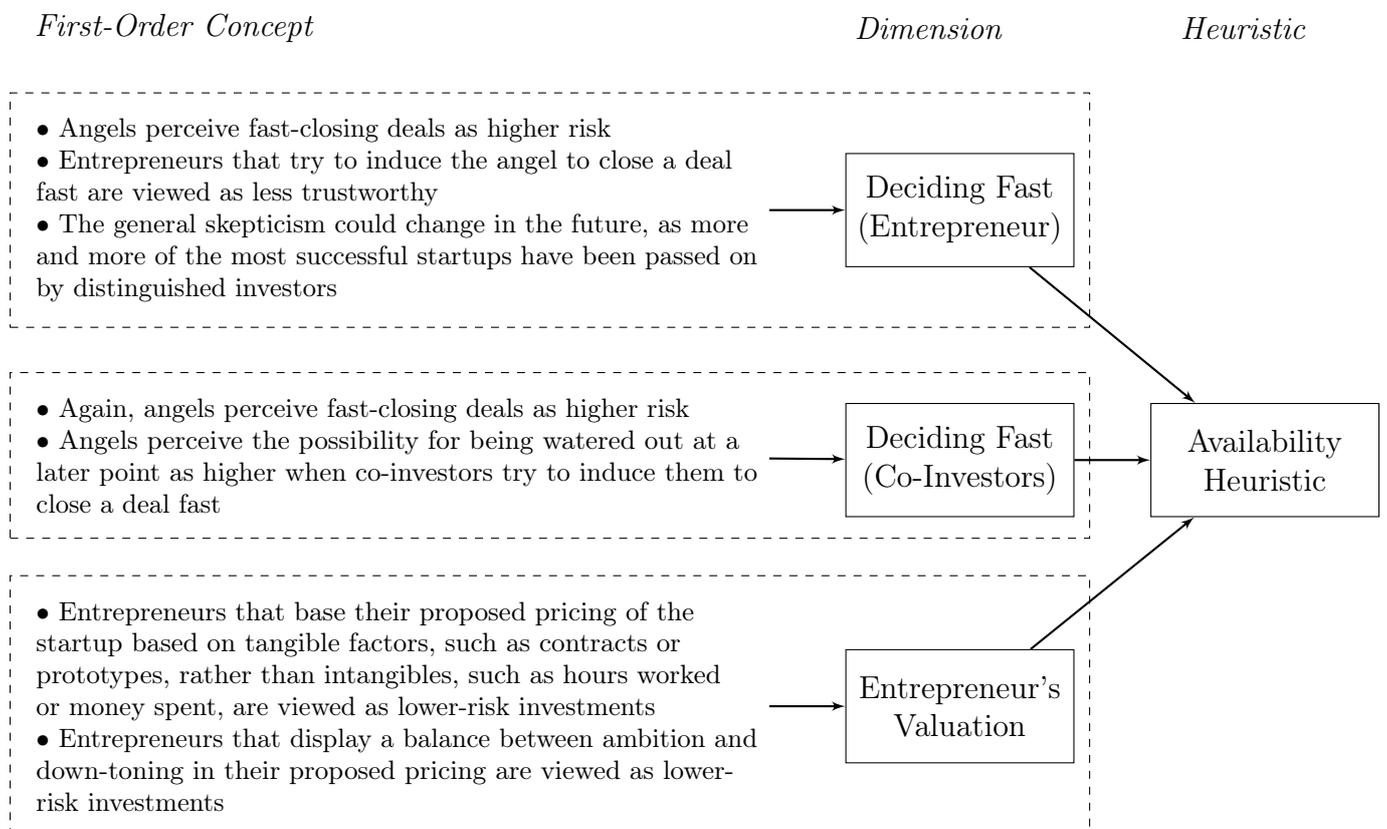


Figure 4.6: Availability Heuristic

deals closed with limited assessment and diligence. As such, when entrepreneurs try to close deals fast, the perceived investment risk increases. Still, the Cross-Atlantic angel highlights the danger of being too skeptical: "And of course we could be wrong. We could be wrong, I mean uh, it's usually when you don't invest, I mean, the stats, if you look at it: the ones that you *believe* is going to be the winners, when you invest, they're the ones who fail, are not the ones who are going to make it, you know, and the ones that you *don't* really have a full conviction in, they are the ones who, wow, suddenly become a unicorn." While the Norwegian angels in my data seemed to instantly reject proposals when the entrepreneur tries to induce them to decide fast, the U.S. investors that I interviewed seemed more pragmatic if the situation could provide them better investment terms.

The second dimension is related to the first one; angels in my data show skepticism towards co-investors that try to induce them to close a deal fast. While angels in my data all talked about leveraging their network actively, several were also skeptical towards investment opportunities where other investors try to bring them on at the last minute. The implications of this dimension are the same as the previous dimension.

The third dimension concerns angels' experiences of entrepreneurs' valuation of their startups. Angels in the data stressed the importance of this dimension because the pricing is often the most important term in negotiations. I found that the Cross-Atlantic and Norwegian angels all noted skepticism towards entrepreneurs that are too optimistic in their valuation. The skepticism is linked to the perception that such entrepreneurs have a wrong image on the scope of the tasks that need to be solved to ensure that the startup succeeds. The notion may seem counterintuitive because past research in a North American context proposes that asking for less funding results in getting less funding (Poczter and Shapsis, 2018). Angels gave numerous examples of how entrepreneurs can counteract this skepticism, such as obtaining a pilot customer or an innovation contract with, for example, Innovation Norway. A higher price could also be less problematic if the entrepreneur could show to prospective agglomeration effects or larger firms or corporations that are perceived likely to acquire the startup.

Proposition 4.6. *Angel Investors employ an Availability Heuristic, i.e., the tendency for angel investors to base assumptions of frequency, probability, or typicality of an event on how easily a related example comes to mind.*

4.7 Deference-towards-the-Archangel Heuristic

The last heuristic I identified in the exploratory analysis is a novel heuristic that I label as a Deference-towards-the-Archangel Heuristic. I define this heuristic as the tendency for older or more experienced angel investors to be both more hands-on in the day-to-day activities of a startup and to be more directive and exercise more control over the startup. Thus, I propose that older or more experienced angels expect deferent behavior from entrepreneurs they go into business with. I delimit the Deference-towards-the-Archangel Heuristic into three dimensions: (1) individual angel's preference for control, (2) individual angel's preference for how active they want to be in the day-to-day in the startup, and (3) how angels step in if they believe their investment is at stake (Figure 4.7).

The first dimension, *control*, concerns angels' preference of control over a proposed startup. I found that angels in term sheet negotiation utilize several clauses to acquire more control over the startup, such as having a seat on the board, owning special stock classes, or having the right to re-invest in later rounds. The most active and directive angels in my data all sought to have a seat on the board. The very experienced Norwegian angel 1

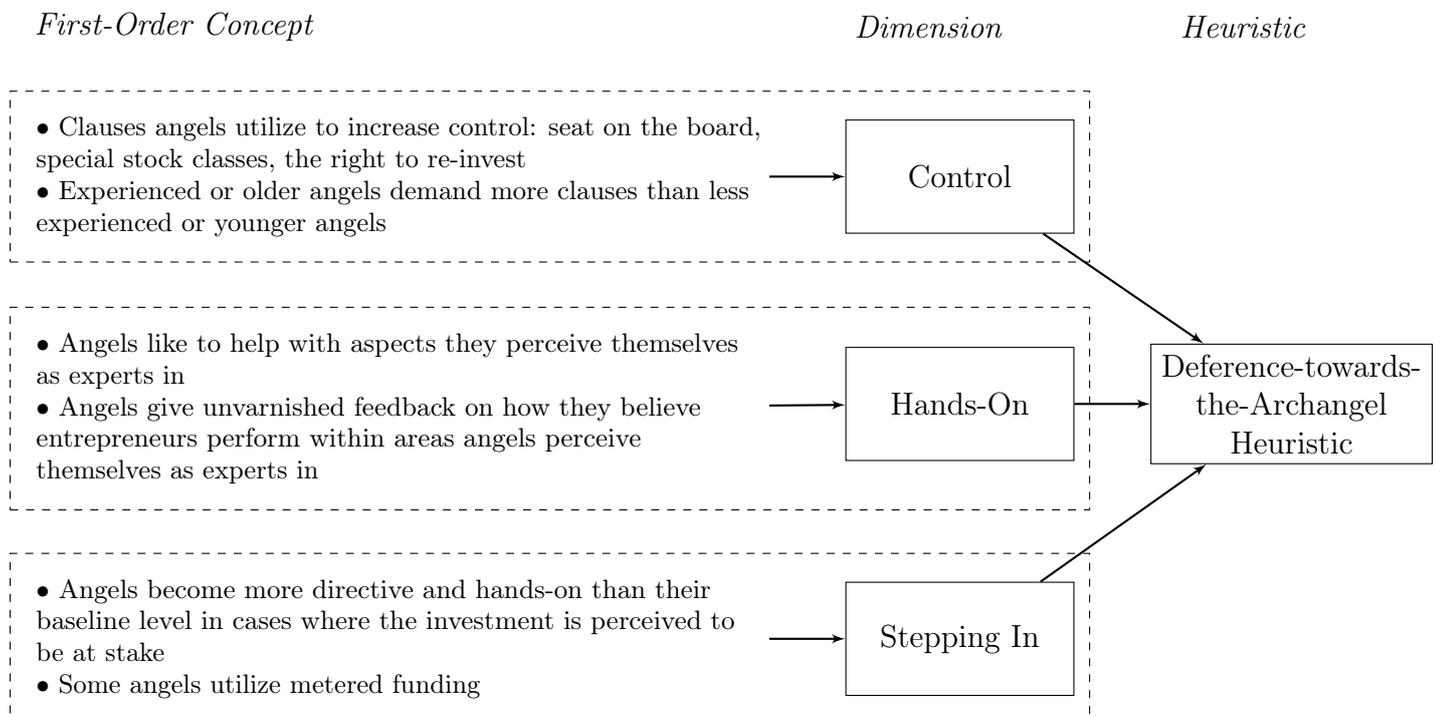


Figure 4.7: Deference-towards-the-Archangel Heuristic

stated this preference very directly: "I do feel that uh, it's important to have two hands on the wheel. So when I go in, I want to be able to, uh, I clearly want to, uh, have a saying in all major decisions. So even if I'm not a 50% investor, uh, I certainly make sure I have the right to vote for 50%." Angels sharing this view stress that this does not mean that the angel takes control of the day-to-day, but rather is concerned for the long viability of the startup's success at a strategic level. At the other end of the continuum are angels that are both less directive. In the sample, these angels were less experienced. Reasons stated for being more passive ranged from a belief of lack of industry experience to a desire to learn as broadly as possible before eventually finding a niche investment area in which the angel could be a more active investor.

The second dimension, *hands-on*, concerns how hands-on angels prefer to be in the day-to-day activities of a proposed startup. In the dataset, the most experienced angels liked to help in the daily activities of the startup within areas they view themselves as experts. As such, less experienced angels in my data did not prefer to be as involved in the day-to-day. Still, the less experienced Norwegian angel 2 stated that she is good at building websites. As such, she both expects entrepreneurs to ask for her input regarding their website, and she does not shy away from voicing her opinion if she believes the website is sub-par.

The third dimension, *stepping in*, concerns what angels do, no matter their preferences for hands-on or control if the investment is perceived as at stake. Not dependent on the passive-active continuum, and as has been mentioned earlier in the analysis, In my dataset, all angels, regardless of their age or experience, steps in and becomes more directive than they usually act if the investment seems to be at stake. An example is U.S. angel 1 who voices her concern and steps in if she believes the entrepreneur or team is performing sub-par: "I don't shy away from telling people that I'm concerned [...] I will sometimes say 'can I please have a conversation with you, and really let's dive into what's happening,' and I feel very fine to say 'what about this and that' and to suggest changes, uh, and to, if they want me to, to get very involved in helping, say, to fix something, like sometimes it's, there's team dynamics that are really gotten very awkward and inefficient inside a small company, and so we might decide myself and the founders that I am going to step in, and I'm going to meet with a lot of the team members, I am going to facilitates some meetings, I'm going to try to help, uhm, get things operating more smoothly." To avoid

situations in which the entrepreneur does not act on concerns, Norwegian angel 3 utilize metered funding, i.e., they only wire part of the money up-front and utilize milestones that the entrepreneur has to reach to receive additional money. Still, Norwegian angel 2 states that, unless it comes to her pulling out of the investment, the angel-entrepreneur relationship is very much based on trust and continuous communication.

Proposition 4.7. *Angel investors employ a Deference-towards-the-Archangel Heuristic, i.e., the tendency for older or more experienced angel investors to be more hands-on and directive with their investments.*

4.8 Theoretical Sampling

While the exploratory analysis reveals seven generative heuristics (Proposition 4.1-4.7), the propositions remain unvalidated. In addition, several of the propositions from the Literature Review remain inconclusive (Table 4.3). Thus, per the Theoretical Sampling principle of Grounded Theory (Glaser et al., 1968), additional data collection and subsequent analysis is needed, which I present in the next chapter.

Table 4.3: State of Propositions from Literature Review

Proposition	Explanation	Implication
2.1	Angel investors' decision-making processes happen in three stages: Search and Screening, Due Diligence, and Deal-Making.	<i>Inconclusive</i>
2.2	The Search and Screening Stage in angel investors' decision-making processes is dominated by System 1 thinking, whereas the Deal-Making Stage is dominated by System 2 thinking.	<i>Inconclusive</i>
2.3	Norwegian angel investors utilize the Elimination-by-Aspect Heuristic as a catalyst heuristic.	<i>Restated as Proposition 4.4</i>
2.4	Angel investors are biased in decision-making; a bias can activate a heuristic, and subsequently, employment of a heuristic can lead to biased behavior.	<i>Confirmed</i>
2.5	More experienced angel investors are quicker and more confident in investment decision-making. These behavioral traits may be derived from all types of experience, not just investment experience.	<i>Confirmed</i>
2.6	Both Norwegian and U.S. angel investors employ trust as a heuristic, but Norwegian angels are induced by other aspects of trust than U.S. angels.	<i>Restated as Proposition 4.5</i>

5 Validation Analysis

The previous chapter proposed that angels employ a total of seven generative heuristics in their investment decision-making processes. While the data revealed that the presence of each heuristic is likely, several of the heuristics' underlying dimensions must be re-examined. Furthermore, whether Norwegian angels employ the three-stage decision-making process of Search and Screening, Due Diligence, and Deal-Making (Mittiness et al., 2012), and where each heuristic can be placed along each stage, was unclear.

As such, this chapter seeks to validate my propositions and findings. To do so, I revisited all of the Norwegian angels and the Cross-Atlantic angel. Norwegian angel 1, 3, and the Cross-Atlantic angel met together with me in a focus group setting, whereas Norwegian angel 2 met with me one-on-one. A focus group setting was advantageous for two reasons: (1) to more effortlessly highlight differing opinions and fuel theoretical discussion, and (2) out of time-saving and practical reasons. The meetings followed what Anand et al. (2007) labels "strong form qualitative validation" (p. 418). As such, I presented the findings and my interpretation of the findings directly to angels to uncover weaknesses or additional context, which also is in line with the Theoretical Sampling Principle of Grounded Theory (Glaser et al., 1968). Each meeting started with me presenting each of the seven heuristics, the three-stage decision-making process, and my proposed placement of each heuristic along each decision-making stage. Then, a free-flowing discussion followed, in which each angel was asked to comment and make sense of the findings.

When presented with the decision-making process and the proposition that during the decision-making process, each stage represents slower and more elaborate decision-making (Kahneman, 2011; Mittiness et al., 2012), each angel agreed. Thus, Propositions 2.1 and 2.2 are confirmed. When discussing each of the seven heuristics, all of the angels agreed on the presence of the heuristics. However, angels disagreed that the proposed Social Cost Heuristics is manifested by a social cost, but rather because of a lack of a salesperson mindset in Norwegian culture. Thus, propositions regarding all heuristics except for the Social Cost heuristic are confirmed (Table 5.1). I first discuss the six confirmed heuristics' placement along the stages of the decision-making process. Then, based on the theoretical sampling, I re-interpret the proposed Social Cost Heuristic.

Table 5.1: Validation of Propositions

Proposition	Explanation	Conclusion
2.1	Angel investors' decision-making processes happen in three stages: Search and Screening, Due Diligence, and Deal-Making.	<i>Confirmed</i>
2.2	The Search and Screening Stage in angel investors' decision-making processes is dominated by System 1 thinking, whereas the Deal-Making Stage is dominated by System 2 thinking.	<i>Confirmed</i>
4.1	Angel investors employ a Personal Relevance Heuristic, i.e., the tendency for angel investors to prefer to invest in startups that match their preferences of industry, growth potential, and turf of expertise.	<i>Confirmed</i>
4.2	Angel investors employ an Affect Heuristic, i.e., the tendency for angel investors to treat their mood as information when assessing investment opportunities.	<i>Confirmed</i>
4.3	Angel investors rely on a Confirmation Bias, i.e., the tendency for angel investors to focus on startup characteristics that affirm their existing beliefs of what characterizes successful startups.	<i>Confirmed</i>
4.4	Angel investors employ an Elimination-by-Aspect Heuristic, i.e., the tendency for angel investors to perceive some startup characteristics to be more important to thoroughly examine relative to other startup characteristics, depending on the context.	<i>Confirmed</i>
4.5	Angel investors employ a Social Cost Heuristic, i.e., the tendency for Norwegian angel investors to perceive a higher risk of product-market fit failure relative to U.S. angel investors, because of a perceived higher social cost of failure in Norwegian society relative to U.S. society.	<i>Rejected</i>
4.6	Angel investors employ an Availability Heuristic, i.e., the tendency for angel investors to base assumptions of frequency, probability, or typicality of an event on how easily a related example comes to mind.	<i>Confirmed</i>
4.7	Angel investors employ a Deference-towards-the-Archangel Heuristic, i.e., the tendency for older or more experienced angel investors to be more hands-on and directive with their investments.	<i>Confirmed</i>

Confirmed indicates that angels in follow-up meetings agreed upon the proposition; thus, I recommend the proposition to be accepted

5.1 Heuristics' Significance at Decision-Making Stages

During the discussion at the follow-up meetings, I asked angels to evaluate the significance of each heuristic across each of the three decision-making stages (Table 5.2).

The *Personal Relevance Heuristics* is most significant at the Search and Screening Stage. Norwegian angel 2 illustrates: "I chose [startups] within my areas of interest plus what can

give me pure profit as well. But the rule of thumb from the get-go is: is this something that I think contributes something to society? But at the same time, it has to be scalable.” If an investment opportunity is deemed as personally relevant by the angel, they then start to assess the entrepreneur or team, and firm characteristics.

Also most significant at the Search and Screening Stage is the *Affect Heuristic*. During the follow-up meetings, angels put most emphasis on their gut feeling concerning this heuristic. Norwegian angel 2 elaborates: “the gut feeling at the pitch concerns the person and the team; are they the right person for a startup? So the gut feeling at the pitch is all about people.” Even though the affect heuristic is most significant at the Search and Screening stage, like every heuristic, it can come back into play ad-hoc at later stages: “When it turns out that the team is not working, it is very crucial for the startup’s success. That time [they had a failed investment] we had that gut feeling, that this is not going to go well [...], but then we were actually at the Deal-Making stage; we thought we had a super team, but then we realized: this is not working, they are not coachable. So then we had to pull out.” Because this example seems like a deviant case, I have not listed the Affect Heuristic across the other two stages. The example should remind the reader, though, that heuristics are highly interdependent.

During meetings, it became clear that angels’ gut feelings are highly derived from experience. Norwegian angel 3 highlights this point: “I have worked so long with [angel investments] that... I did not rely so much on my [gut feeling] when I was new [to angel investing], so I initially went much deeper, because I did not know as quickly what I should look for in each case. But now I have a routine on what I should look after.”

Table 5.2: Heuristics Across Decision-Making Stages

Heuristic	Search and Screening Stage	Due Diligence Stage	Deal-Making Stage
Personal Relevance	O		
Affect	O		
Confirmation Bias	O	X	X
Elimination-by-Aspect	X	O	
Availability		X	O
Deference-towards-the-Archangel			O

O = my original proposed placement following exploratory analysis

X = additional placement by angels during strong form qualitative validation

Still, angels agreed that experience outside of angel investments, such as entrepreneurial experience, can make for better gut feelings and, thus, investment decisions. Therefore, I infer that angels do indeed learn from “samples of one or fewer” (March et al., 1991). The Cross-Atlantic angel supports this notion: “I think that if you have been an entrepreneur yourself, and even better a serial entrepreneur, and are starting out as an investor, I think you have advantages because you are able to contemplate the situation better. There are certain generic aspects that you already know from your entrepreneurial experience. The same applies if you have experience from a specific field or industry [...] then you are better at filter out good from bad investments.” However, Norwegian angel 1 stresses the importance of not relying too much on gut feeling from past experience, because it is not given if past experience is valuable experience: “I think, as an investor, you also have to be analytical, and not rely too much on experience. Because experience can also be a bad experience.”

The *Confirmation Bias*, however, is relevant across all three decision-making stages. Norwegian angel 1 elaborates: “I think that we have a Confirmation Bias across the board. Even in Due Diligence, we are like this that - even though we try to fight against it - we have often already made up our minds. And none of us behave in such a way that we sit and read the facts and then draw a completely objective conclusion. We already have our beliefs, and then we look for aspects that seek to confirm these beliefs. This is the nature of human decision-making, and this is how it always is. We can all read the same fact sheet, and each [of us] derive unique interpretations.”

I found the *Elimination-by-Aspect Heuristic* to be most significant at both the Search and Screening and at the Due Diligence stages. At the follow-up meetings, when presented with a list of 28 screening criteria identified in the angel literature (Maxwell et al., 2011), the angels all agreed that they do not go through all these criteria in-depth. Norwegian angel 1 illustrates: “what happens, at least in my head, is I do not go through the list of 28 criteria before I... to initially get interested I only go through 2-3 criteria, and then I am either interested or not interested.” Each angel’s perceived most important screening criteria are connected to their personal preferences. However, after interviews and review of the literature, I infer that Norwegian angel 2’s preferred criteria are the most normative: “You know, I went to an angel investor kind of course, and then they

presented a long list of criteria within different categories, and when I think about it, I rarely use that complete list very often [...] I do really always return to the same criteria: you need to have a big enough market and know the competition, and then you need to know that the entrepreneurs you invest in actually have the guts to follow through.”

The angels re-stated that they prefer to specialize within a niche - a so-called vertical: “I think it’s quite usual, that you [as an angel investor] find a vertical that you are good at, and specialize within that” (Cross-Atlantic angel). Still, they do not shy away from investing outside of their vertical if something sparks their interests, even if it violates their most important screening criteria. The Cross-Atlantic angel illustrates: “The last investment we made, was in [startup name]. But, that startup we invested in although it violated some of the criteria we usually look at. Is it software? Hmm, not really. Is it a large enough market? Hmmm, this [product]... how large is it really? So it really isn’t a large enough market. But there are some aspects of this product I think is cool, but the investment is... not representative [laughs].” While this example strengthens the proposition that angels invest in what they are interested in and care about, the example also shows the flexible nature of heuristics, and that angels violate any chosen vertical or criteria whenever they want.

The *Availability Heuristic* is most significant at the Due Diligence and Deal-Making stages. Angels in the data confirmed the findings in the Exploratory Analysis and indicated that more experience allows them to recall better what should work and what should not. During Due Diligence, angels rely on recall of a past event to determine what assessment criteria should be most relevant within a particular industry. In Deal-Making, the angels indicate that they rely on recall of past events in relation to past startup characteristics and how a subsequent term sheet should be structured. Ineffective decision-making would, in such cases, be if the angel does not consider whether previous startups experienced success because of the startup itself or factors in the external environment.

Lastly, the *Deference-towards-the-Archangel Heuristic* is most significant at the Deal-Making Stage. Angels in my data highlight different reasons for why they either want to exercise control or be present in the day-to-day. Norwegian angel 2 illustrates her personal preference for being hands-on if she perceives that she has the expertise, while she at the same time does not want to exert too much control: “Well, first things first, I personally

believe that the startup needs to be in control themselves; if not their motivation will become quite low. And I think this is important, and I also think that our [BAN] has communicated this, is that it is important that the entrepreneur feel it is their own business, that is important. I do not have anything against being hands-on with the startup, but then I feel I need to have something to bring to the table. And because I have experience from somewhat niche industries, then I think I should be hands-on when the startup is within that same industry.” Differing examples from this view is Norwegian angel 1’s preference of exercising at least a 51% voting rights, or the Cross-Atlantic angel preferring to be neither in majority control or hands-on. As such, the nature of this heuristic is that it is highly connected to personal preferences.

5.2 Norwegian Lack of a Sales-Oriented Mindset

When validating the Social Cost Heuristic, it was quickly revealed that the angels in my data did not support the presence of this heuristic (Proposition 4.5). The angels highlighted that although they agree that Norway likely has high cultural tightness, i.e., strong norm conformity (Gelfand et al., 2011; Hofstede, 2019a,b), the effect tightness has on angels’ decision-making processes is not manifested in a perceived higher social cost of entrepreneurship. Thus, Proposition 4.5 must be rejected. Instead, the discussion revealed that a heuristic unique to Norwegian angel investors likely exists due to a proposed lack of a sales-oriented mindset in Norwegian society relative to U.S. society. The proposed additional heuristic is manifested by differences in staffing between Norway and the U.S.

5.2.1 Differences in Business Culture

At the follow-up meetings, the angels argued that Americans are more approachable and more natural to approach in business, whereas they are much harder to befriend. Then, they proposed that the opposite applies to Norwegian culture. Norwegian angel 1 elaborates: “I think it is important to distinguish relational culture and business culture. Americans are very approachable on the surface and in business. They are much harder to build long-lasting friendships with. When a Norwegian opens up, we open ourselves up with both “skin and hair,” whereas Americans are not quite like that,” says Norwegian

angel 1, indicating that Americans, in general, are more “forward-leaning” than Norwegians. This difference is proposed to affect entrepreneurs’ internal drive for success, as he further explains: “I also think that in the U.S., the desire for success is much larger than in Norway, so [entrepreneurs] there suck up failures easier.”

The angels claimed that the cultural differences are manifested by a lack of Fail Fast product development processes by Norwegian entrepreneurs. Contrary to popular belief, Fail Fast is not about failing fast, but to continuously seek feedback on solutions and then immediately iterate on the feedback in product or service development (Pontefract, 2018). As such, Norwegian entrepreneurs supposedly spend a long time finishing and polishing a product and only then test or bring a product straight to the market. U.S. entrepreneurs, however, supposedly continuously test, iterate, and re-test solutions numerous times before bringing a product to market. The Cross-Atlantic angel illustrates the argument: “Norwegian culture is less “sales-oriented,” and more driven towards [an] “engineer” [mentality]. The stereotype would be: Engineers love to make products and hate to talk to customers; Sales understand they need to listen to customers in order to sell.” A sales-oriented organization is proposed to conduct several so-called micro pivots over time and iterate more on new information relative to an engineering-driven organization, which is prone to commit to a process from start to finish. Norwegian angel 1 expands on the argument: “A few of the reasons for why it is like this is that sales is looked down upon [in Norway], and viewed as a mandatory evil a company needs to have, while it is considered as a higher moral to be an engineer or product developer. To sell, then, is not viewed as that important.” The result in investment decision-making is an inherently more substantial risk of product-market fit failure in Norway relative to what is proposed to be typical in the U.S. This conclusion is the same as that of the Social Cost heuristic. However, the underlying reasons are more complicated than what that heuristic proposes.

The question, then, is whether there are other explanations for why Norwegian entrepreneurs supposedly behave differently other than the national culture. One explanation might be the smaller amounts of possible connections in Norway relative to that of the U.S.: “I also think there is another element, and that is that we [Norwegians] are most comfortable in our “own little duckpond.” We talk about internationalization and so on, but after all, we are all closest to our own turf. And since we could be considered

as only a medium-large city globally, each of us has a limited amount of connections. So many Norwegian entrepreneurs have the opinion that they do not want to use up all their contacts before their product is good enough. So I think this leads to entrepreneurs holding back towards approaching the prospective best customers because they are afraid of becoming ashamed,” says Norwegian angel 1, highlighting an inherently higher potential downside in Norway of an investment or potential customer meeting going bad. Combined with a Norwegian, less forward-leaning mentality, Norwegian entrepreneurs are both more afraid of failure while at the same time having more limited networking opportunities.

Still, the angels argue that they are seeing a change in Norwegian entrepreneurs’ forward-leaning mentality. “A very important parameter for innovation ability is: do people dare? I also think what you should mind in this study is, a new generation is coming,” says the Cross-Atlantic angel, inferring that younger Norwegian entrepreneurs are becoming less afraid of failure. Norwegian angel 3 expands on the notion by highlighting that the older Norwegian generation has stronger norm-conformity than the younger one: “I think we [older people] come from a generation where we are taught to follow the norms and conform. There are hierarchies, and you get promoted linearly. This is completely changing [in Norway] today.”

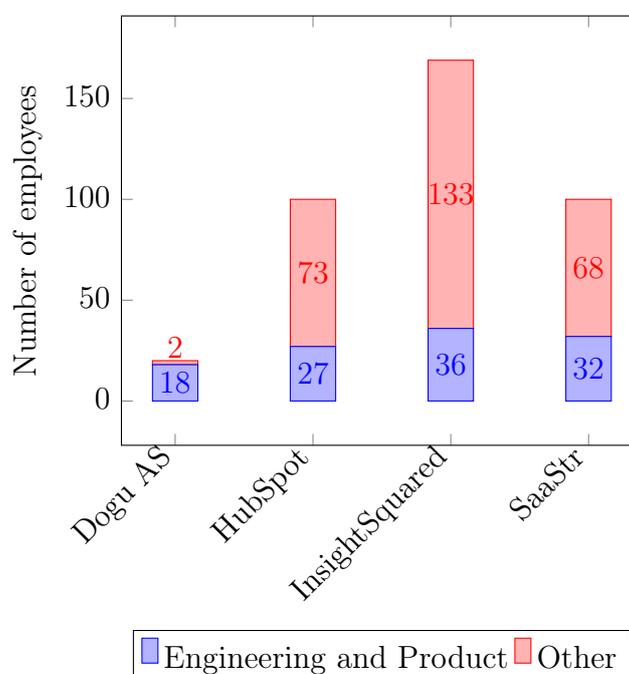
A central question, then, is whether behavior unique to Norwegian angels is compatible with the proposed generation change. Because most angels in my dataset invest in startups that can scale to the global market, I argue that the existence of culture-specific heuristics is a sign of sub-par decision-making, especially if entrepreneurs become more alike at a worldwide scale. Norwegian angel 1 elaborates: “As investors, we are all biased. Moreover, American investors, in general, may have different biases than Norwegian investors [...] So if I have a gut feeling, that gut feeling will be grounded in a Norwegian setting. [But we as Norwegian angels invest in companies that we want to scale globally]. So even if we ‘fish in two ponds,’ it is not given that our approach should be unique, because these are the same types of companies that seek the same success in the same global market.”

5.2.2 Differences in Staffing

The proposed lack of a sales-oriented mindset in Norway is visible at the job position level. Examining data collected by Spring Capital Polaris on Norwegian and U.S. Software as a Service (SaaS) firms' employee data, Norwegian SaaS firms employ a much higher proportion of engineers and product developers relative to all other employee functions than U.S. SaaS firms (Figure 5.1) (Sellæg, 2019).

Partner in Spring Capital Polaris, Gunnar Sellæg, explains: “We’ve met with about 300 Norwegian SaaS firms and observed that, without exception, market-oriented employee positions are less prioritized in Norway relative to for example the U.S. [...] the [Norwegian data] is represented by Dogu AS, which is a company that we have invested in, and that [has a typical staffing structure] for Norway.” Based on this data and the above discussion with angels, I propose the presence of what I label a Salesperson Heuristic, mediated by a lack of a sales-oriented mindset in Norwegian culture:

Proposition 5.1. *Angel investors employ a Salesperson Heuristic, i.e., the tendency for angel investors to perceive startups with lack of a sales mindset or sales function as having a higher risk of product-market fit failure relative to other startups.*



Dogu AS' staffing is typical of Norwegian SaaS firms (n=300) (Sellæg, 2019)

Figure 5.1: Norwegian and U.S. SaaS Job Position Structure (2017)

5.3 Overcoming Adverse Decision-Making Outcomes

As has been stated numerous times, past research on angel investments has largely failed to be of practical use. My research aims to address this gap by taking a holistic, decision-making perspective, guided by heuristics. While heuristics serve as an important aid for angels to simplify their decisions, there might exist cases in which a too high reliance on heuristics could lead to adverse decision-making outcomes. As such, I present practical recommendations for stakeholders regarding each proposed heuristic (Table 5.3). The next chapter discusses the managerial implications of each recommendation in detail.

Table 5.3: Heuristics and Recommendations for Stakeholders (source: author's research)

Heuristic	Explanation	Recommendation
Personal Relevance	The tendency for angel investors to prefer to invest in startups that match their preferences of industry, growth potential, and turf of expertise.	<i>Publicly display interest areas and passions^{A, E, G}.</i>
Affect	The tendency for angel investors to treat their mood as information when assessing investment opportunities.	<i>Determine when affection is a good substitute for information^A.</i>
Confirmation Bias	The tendency for angel investors to focus on startup characteristics that affirm their existing beliefs of what characterizes successful startups.	<i>Distinguish "true" beliefs from those depending on context^A.</i>
Elimination-by-Aspect	The tendency for angel investors to perceive some startup characteristics to be more important to thoroughly examine relative to other startup characteristics, depending on the context.	<i>Publicly display most important criteria^A.</i>
Availability	The tendency for angel investors to base assumptions of frequency, probability, or typicality of an event on how easily a related example comes to mind.	<i>Create personal heuristics designed to reveal pitfalls^A.</i>
Deference-towards-the-Archangel	The tendency for older or more experienced angel investors to be more hands-on and directive with their investments.	<i>Publicly state perceived ideal angel-entrepreneur relationship^{A, E}.</i>
Salesperson	The tendency for angel investors to perceive startups with lack of a sales mindset or sales function as having a higher risk of product-market fit failure relative to other startups.	<i>Adopt an ambidextrous perspective on entrepreneurship^{A, E, G}.</i>

Superscription of *A* indicates recommendation is applicable for angel investors, *E* for entrepreneurs, and *G* for the government, including policy-makers and agencies.

6 Conclusions

This thesis has aimed to uncover the nuances and interdependencies of Norwegian angel investors' investment decisions across different stages of their decision-making processes. My comparative dataset of one Cross-Atlantic, three U.S., and three Norwegian angel investors showed that angels deliberately simplify their investment decision-making processes by employing heuristics. The exploratory analysis unveiled a total of seven, generative heuristics, grounded in angel quotations. Subsequent theoretical sampling and validation analysis accepted six of the initial heuristics, rejected one, and proposed an additional heuristic. Hence, I conclude that Norwegian angel investors rely on seven heuristics: Personal Relevance Heuristic, Affect Heuristic, Confirmation Bias, Elimination-by-Aspect Heuristic, Availability Heuristic, Deference-towards-the-Archangel Heuristic, and a Salesperson Heuristics (Table 5.3). My findings support that angels conduct decisions in a three-stage decision-making process, i.e., the Search and Screening stage, Due Diligence stage, and the Deal-Making stage, and that they rely on different heuristics across the stages. My findings indicate that heuristics that are prominent early in the decision-making process comprise mostly of individual attributes. In contrast, later stages are guided more by factors in the environment. To illustrate, the early-stage Personal Relevance Heuristic primarily concerns angels' personal preferences, whereas the late-stage Salesperson Heuristic very much is an interplay between individual and environment. Of most significance to Norwegian readers is that I argue how a proposed Norwegian lack of a sales-oriented mindset can be harmful to economic growth and innovation capability.

6.1 Theoretical Implications

By moving towards a holistic perspective on angel investors' decision-making processes, I argued that this thesis is starting to fill the proposed research-practice gap. As was proposed in the Literature Review, angels consider gradually more granular investment criteria along the decision-making process. I proposed that angels examine the most important criteria categories at the Search and Screening Stage, then specific criteria at the Due Diligence Stage, and lastly, criteria concerning specific term sheet items at the

Deal-Making Stage. In line with Kahneman (2011), I proposed that the initial assessment of only a few criteria categories is conducted semi-automatically in System 1, while the subsequent selection of more granular criteria is slower and more elaborate in System 2. In sum, this study's unification of screening criteria and heuristics within a holistic decision-making perspective offers valuable insights for stakeholders within the entrepreneurial ecosystem. For entrepreneurs and angels alike, it offers awareness of pitfalls to avoid. For the government, it may guide the creation of policies and programs that allow for better matching between entrepreneurs and angels.

6.2 Managerial Implications

Although heuristics are vital in enabling angels to conserve mental capacity for their most crucial assessments, I have argued that situations may arise where angels' reliance on heuristics can lead to adverse outcomes. I now discuss the recommendations presented at the end of the previous chapter regarding each of the seven heuristics. Together, these recommendations form an actionable framework for facilitating better employment of seed capital.

6.2.1 Publicly display interest areas and passions

Because angels discard most investment opportunities almost instantly, all stakeholders should have an interest in making angels' and entrepreneurs' interest areas and passions as public as possible. Angels would benefit from receiving a lower number of investment proposals. As such, more mental capacity would become available for a more thorough assessment of the remaining proposals. For entrepreneurs, I argue that there are two advantages. Firstly, it may become more manageable for entrepreneurs to prioritize which angels they should contact, which consequently frees up more time for solution development and testing. Secondly, more publicly available information about the entrepreneur may reduce the perceived agency risk, as more information would become available for angels in subsequent assessments. For policy-makers and government agencies, aggregation of interest and passion data would make it easier to discover emerging industries and spearhead programs and services that stimulate growth.

6.2.2 Determine when affection is a good substitute for information

As proposed, entrepreneurs that induce a good mood in angels when interacting with them are generally perceived as less risky investments. As has been mentioned several times in the thesis, angels utilize experience from other domains than angel investments to guide their decision-making. As such, I infer that by reflecting directly upon Affect Heuristic aspects, angels can derive valuable insights that they can utilize as experience in subsequent investment decisions. This recommendation may seem straightforward or superficial, but I argue that self-consciousness can be viewed as an inexpensive mental investment that has a large payoff in the long term.

6.2.3 Distinguish "true" beliefs from those depending on context

In a similar fashion to the previous recommendation, I argue that each angel reflecting upon what they characterize as a successful startup could lead them to discover cases in which confirmation would not be beneficial. Reflection upon one or more of the first-order concepts of the Confirmation Bias highlighted in the exploratory analysis may enable angels to determine which aspects of success that hold true most times and which aspects that are dependent on each context. For example, an angel may conclude that a perceived strong team most always leads to success, whereas the success of a good product is dependent on the market or industry. Angels knowing which of their existing beliefs are always "true" and which ones that are not may enable better spending of mental capacity.

6.2.4 Publicly display most important criteria

A public display of which criteria an angel emphasizes most may benefit all stakeholders, save time and speed up development, and facilitate better resource application. For example, the government or NGOs could aggregate data and make the findings available as tools that show which criteria angels typically emphasize within a particular market or industry. As has been highlighted in the thesis, angels in my data tended to emphasize a large enough market size, a scalable solution, and the right team.

6.2.5 Create personal heuristics designed to reveal pitfalls

Since angels view information that is easier to recall as more essential or probable, angels run the danger of either false rejection of an excellent opportunity, or wrongful acceptance of a bad opportunity. Therefore, I advise angels to create personal rules-of-thumb (i.e., heuristics) to reveal cases in which they utilize the Availability Heuristic irrationally. Such rules-of-thumb could address adverse inferences regarding first-order concepts presented in the exploratory analysis, or other aspects of which angels perceive they frequently have problems. The emphasis should lie in the angel uncovering pitfalls they are especially prone to fall into.

6.2.6 Publicly state perceived ideal angel-entrepreneur relationship

Considering that older and more experienced angels tend to both be more hands-on and directive with their investments, this recommendation proposes that some entrepreneurs prefer active angels, while others do not. As such, better matching of angels and entrepreneurs at a relationship level is beneficial, beyond what is agreed upon in term sheet negotiations. Still, entrepreneurs should note that, no matter how hands-on or directive an angel is, angels in my data emphasized that they prefer entrepreneurs that are coachable.

6.2.7 Adopt an ambidextrous perspective on entrepreneurship

As was revealed in Chapter 5, Norwegian entrepreneurs are proposed to struggle with the sales side of entrepreneurship compared to that of U.S. entrepreneurs. As such, for all stakeholders, adopting a perspective that equally emphasizes the sales side and engineering side of entrepreneurship (i.e., an ambidextrous perspective) may fuel economic success stories and thus lower an angel's baseline perceived risk of product-market fit failure.

6.3 Limitations and Future Research

This research focused on angel investors at the individual level. As such, inferences made at the national level run the risk of individualistic fallacy. I have striven to counteract such effects through the heterogeneous sampling technique and comparative research design. In collecting, analyzing, and interpreting data, a substantial limitation is that I am the sole researcher in this project. As such, researcher bias must be expected in coding, integration, and delimitation of theory. I also note that some translation of interview data from Norwegian to English may have altered some implicit meanings. When presenting heuristics, my main focus was readability. As such, some dimensions I highlight as belonging to one heuristic may not be exclusive to that heuristic. Readers should not be confused to think that well-known heuristics from the literature are theoretically constructed by the dimensions I present. The dimensions comprise almost exclusively of primary interview data collected for this study, with some triangulation with secondary culture and staffing data. As such, the heuristics should only be assigned meaning within a Norwegian and U.S. angel investor context. In the validation analysis, I utilized a focus group with the hope of capturing normative behavior. However, any observed behavior from the focus group might be more extreme than what it would be in a real-life context. Although my study comprises of only U.S. and Norwegian data, I argue it should be of global interest and inspire future research. It introduces a holistic perspective of angel investment decision-making, addresses the research-practice gap, and highlights the significance of culture. Future studies should be interested in further developing this perspective. Possible avenues for research include re-interpretation of a broader bulk of existing literature and to conduct more research on angel-specific heuristics. As the holistic perspective develops, the point-of-view of other stakeholders, such as entrepreneurs, may be included to explore interdependencies in angel decision-making more fully. Furthermore, I recommend the conduction of extensive comparative studies across additional countries. Such initiatives also open up future possibilities for longitudinal studies, studying angel investment decision-making across countries and culture over time.

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Appendix

A1 Interview Guide

*Several of the questions are inspired by Timothy Ferriss' book, *Tribe of Mentors* (2017)*

Thank you for taking the time to sit down with me. The purpose of this interview is to explore your decision-making process as an angel investor. So, the focus will be more on how you assess investment opportunities, rather than on the purely financial side of it. The questions I will ask you are standardized so that all participants will be asked the same questions. I have a set of 12 questions, but if we have time, I have some bonus questions as well. Do you have any questions so far? Okay, let's dive right into the first question, which is about your current, or ideal, investments:

- Q1: In what geographies and areas of impact are most of your investments located? Where might your next future, ideal, investment be located?
- Q2: Okay, let's talk about the screening of investment opportunities: Do you have a specific set of screening criteria for the projects you do invest in? If so, can you share them with me?
- Q3: How do you identify new potential investment opportunities?
- Q4: When looking at the leadership of a potential new investment, how do you assess the skills of the entrepreneurial team?
- Q5: When assessing new potential investments, are there any typical "red flags" or "alarm bells" that you often look for?
- Q6: Okay, let's talk about successful ventures. What are the characteristics of the projects that are successful in receiving funding from you or your firm?
- Q7: How often do you give hands-on advice to the projects you invest in?
- Q8: The Angel investment marketplace continues to evolve. For example, new markets open up every day. If we focus in on the last five years, how have you evolved in your approach to investing? Specifically, have you adopted any new beliefs, behaviors, or habits that have made you a better investor?

- Q9: Now, I want to move over towards discussing failure. All of us fail at some point in our lives. How has a failure, or apparent failure of your own, set you up for later success? Do you have a “favorite failure” of yours?
- Q10: How do you assess an investment-seeking entrepreneur’s past failure or failures?
- Q11: Okay, we are nearing the end of our interview, but before we end, I want to ask you a couple of quick questions about your deal-making as an angel investor. How do you assess investment opportunities that require you to decide fast?
- Q12: Do you prefer or actively use any of the following deal criteria: valuation cap, discount, or negotiate future pro-rata rights?

A2 Findings Not Constituting Heuristics Thinking

While delimiting the theory, several interesting themes emerged that did not directly fit into my research’s goal of generating and validating heuristics. However, the exceptionally curious reader may find additional context interesting. Below I discuss findings related to angels’ decision-making processes that do not constitute heuristics thinking.

Sourcing

Angel investors in my data source investment opportunities from numerous sources. On a continuum, new investment opportunities are either sourced by an active search from the angel or that the angel gets approached by an entrepreneur, such as receiving a cold phone call (Figure ??).

Most angels in my sample source their investments semi-actively from their networks either by actively engaging with their network or by trusted individuals in their network reaching out with recommendations. Also, all of the Norwegian angels and the Cross-Atlantic angel are members of an organized BAN that organizes pre-screened pitches. All angels also attend different types of social gatherings to meet other investors, entrepreneurs, or stakeholders, such as demo days and innovation conferences. In addition, individual angels employ numerous other deliberate sourcing tactics, such as investing directly in online platforms listing startups, venture funds, and educational programs. In my dataset, more

Table A2.1: Data Extracts: Sourcing

Angel	Quotation
NO1	First of all you need a good sourcing of candidates that bring you investment opportunities. And, uh, so you need to get involved in anywhere where there is a good sourcing. And that could be, uh, networks like [angel networks or networking organizations]. It could be [large banks], you know, accelerators. It could be, uh, it could be anywhere where you get sources, where you get to meet, uh, entrepreneurs.
USA1	There's three ways: one is that I go to Demo Days of different accelerator programs or University programs [such as Y Combinator] [...] and I volunteer for a number of them, and those I find particularly valuable, because I'm not just attending the demo days to hear the pitches, I'm actually working with particular companies over time [...] Another way is just friends tell me, you know, that they are going to invest in a particular company and they recommend that I take a look as well. I don't do that as often as [pause] as the other ways but it is one way that that I have invested in companies. The third way is off of websites. So I actually know the people that started a company called [redacted] very well, and I actually did some work for them and so I really know what their processes is and so I evaluate, I sort of collaborate with other evaluators to evaluate startup companies on their platform. So that's, how I'm hearing, you know, I would not have heard about those companies otherwise, except they're on the platform and I help evaluate them and I decide if I am going to invest in them or not.

For all data extracts, *NO* and a number indicates a Norwegian angel investor, *USA* a U.S. angel investor, and *X-atl* the Cross-Atlantic Angel.

experienced angels had a broader sourcing pool and more sources than less experienced angels, and more experienced angels were more systematic and deliberate in their sourcing than the least experienced angels. All angels invest primarily in startups that are located within their area of residence, except for the Cross-Atlantic angel, who still conducts some investments in his previous area of residence. One reason for investing at the local level is that it is easier to source, meet, and assess entrepreneurs. The other varies from angel to angel but concerns how hands-on the angel prefers to be; angels that prefer to be very involved with the startups they invest in thus find it unattractive to invest in startups that are not located in their vicinity.

Investment Instruments and Terms Negotiated

At the Deal-Making Stage, angels are positively inclined towards investing and enters into negotiation with entrepreneurs about the terms regarding the investment. The primary purpose of the deal-making stage is for the angel to ensure prospective financial gain as well as possible early exit possibilities.

Angels in the data set mostly invest in equity, but some also state that they have invested in convertible debt. U.S.-based angels have also invested in SAFE notes, i.e., Simple Agreements for Future Equity. Created by the accelerator Y Combinator, SAFEs are a form of convertible security that, in essence, does not convert an angel's investment into shares until a priced round takes place later (Ephraim, 2018). Norwegian angels have

either not heard about, or do not invest at a Norwegian equivalent SAFE level, and the Cross-Atlantic angel dislikes the investment instrument, because “equity is equity.”

Regardless of the investment instrument employed, angels negotiate the most on the pre-money valuation of the company, as this will have the highest impact on their ownership on the cap table. The angels also frequently negotiate pro-rata rates or a discount in future financing rounds, or in the case of convertible financial instruments, a valuation cap, both allowing the angel to convert or buy shares at a lower price than other investors in the round. Angels stress the importance of such terms because of the perceived inherent high risk of seed-stage investing, and as such, they do not want to be watered out by later-stage investors without reward for their higher risk-taking. In general, more experienced angels are more thorough in their due diligence and subsequent deal-making because they want the flexibility to re-invest in startups later, either because they believe in the startup, or because they simply want to prevent to be watered out, i.e., more experienced angels mentally "lock-up" more capital than they actually transfer when they make an investment so that their perceived angel investment money pool becomes much smaller over time.

Table A2.2: Data Extracts: Deal-Making Investment Instruments and Terms Negotiated

Angel	Quotation
NO1	I go for equity, sometimes I go for convertibles, sometimes I go for, uh, [pause] and in a few instances it could be a combination of equity and options. . .
NO2	Nei, nå er det jo aksjer, ja. Uh, i noen tilfeller så har det jo også vært konvertible lån inne i bildet; <i>English: Well, it's usually equity, yeah. Uh, and in some cases I've also used convertible loans.</i>
X-atl	Well SAFE notes is, you get a discount, usually, on the future, and to have equity is equity. And, uh, I think as a [pause]. It's more like it's, I think it's better for an investor. Because, you [pause] certainly if it is, if it is a solid investment, and in the next round, uh [pause]. Well, if you have both a discount and a valuation cap in there, then you should be okay. But, the, uh, I think equity is equity [...] I think StartupLab has made a paper for a Norwegian SAFE note.
USA1	Usually I'm investing at the SAFEs level as, it's not often that I've invested in a priced round, so, uh [pause], so I'm not sure that the Discount is highly. . . I would say mostly the valuation is probably my biggest issue, the Valuation Cap. And, uhm, the other thing is that [pause] the participation matters a little bit to me in [pause] where Angel investors can really go wrong is if future investors come in and convert to a lot: they set up a term sheet where they have Conversion Rights to convert to Multiple Common, and, it can end up if there is a, say, a company gets acquired as opposed to having some big exit, it's a modest acquisition, if, if other people have come in later and they are going to convert to multiple common share it can wipe out the early stage investors, the really-really early stage investors.
NO1	I don't think that you get successful on angel investment by being, uh, the cheaper goat that always want a little bit more than you, uh, deserve. But I do feel that there is a fair value here, and uh, [pause] and to be, uh, what did you bring in. . . The discount that future, uh, the discount coming in, discount to future, uh, funding rounds. It kind of depends on the case and how much risk you take when going in there.

A3 Heuristics Data Extracts

Table A3.1: Data Extracts: Personal Relevance Heuristic

Angel	Original Language	English Translation
<i>Dimension: Industry</i>		
NO2	Det ideelle er at jeg har [investeringer] innen et forretningsområde som er bærekraftig, at produktet har noe for seg enten for miljø eller for individ, at det bare er et sånn fornøyelsesprodukt kan du si. Og der har jeg forsåvidt de fleste [...] investeringene mine.	The ideal is a sustainable business area that the product has something going for it either regarding the environment or for individuals, that it is not just a pleasure product, so to say. And that's where I have most of my [...] investments.
NO2	I tillegg så er det jo det at du ønsker å se [at startupen] skaper for eksempel arbeidsplasser i nærmiljøet.	In addition, I'd like to see [that the startup] creates, for example, jobs in the local community.
X-atl	What we don't want to do is to go in and take research risk. So we are not, we are not, uh, a research institution or a government [thinks], we are not going to fund research [...] Because uh, I think that's [pause], it needs to be a commercial viable thing. And, uh, there are so many good ideas out there that are not really viable, they look good, uh and I think it's really the government's duty to actually take that risk. We are not the government. We can't afford to subsidize, uh, research, so that's not our role. Our role is to, uh, support fantastic, outstanding people who can take that research and have taken it away to demonstrate that it is a value here and can bring it out to the market. Uh, if we start to subsidize research, we would very suddenly lose money [laughs] very quickly.	
USA1	Generally, I invest in sustainable companies, and sometimes water-related [...], but also I invest in educational technology companies which I would suspect are a little bit more focused on the U.S.	
<i>Dimension: Growth Potential</i>		
NO3	For meg er det ikke geografien – det handler jo om produktet eller ideen er mulig å skalere, sant, ut, videre, enn bare local. Men det er klart at hvis det er en local som klarer å finne løsninger på et problem eller en tjeneste som ikke eksisterer så er det jo veldig kult at det ligger i Bergen, og at man er local på det, da. Men fra investorsiden så må du jo kunne se at det må kunne komme ut i verden, og ikke bare være local.	For me, it's not the geography - it's about the product or idea being able to scale, you know, out, beyond just being local. But of course, I'll admit that if there is a local who manages to find solutions to a problem or service that does not exist, then it is very cool that it is located in Bergen, and that it then is a local. But from the investor side, you have to be able to see that it must come out into the world, and not just be local.
NO1	I would say that I could be open for most areas, but [pause] where you see good ideas popping up is normally, uh, they normally follow the macro trends.	
USA3	So, you know, think small, think local, try to find a way to make little differences here and there, and then hopefully, you know, if you're doing something great then other people replicate it and aggregate it for that vision of making a difference. You don't have to make the impact all yourself. You can share something that you have done and make other people imitate it. And that's [how you influence].	
<i>Dimension: Turf of Expertise</i>		
NO2	Nei, jeg tenker at du må jo, holdt på å si: grille de og stille de dumme spørsmålene. For du som kanskje ikke kan faget godt må jo spørre og høre hva de svarer, sant.	Well, I think you must, after all, <i>I almost said</i> [Norwegian proverb]: grill them and ask the stupid questions. Because if you don't know the discipline very well, you have to ask and hear what they answer, you know.
USA1	I have to believe I can add some value, it's sort of doesn't really make sense for me to invest in them, uhm, if it's not a category that I feel like I can. I'm not investing huge dollars. I'm investing fairly small amounts, so uhm, I should try to provide something in addition, in terms of some contacts or some past experience or something.	

Table A3.2: Data Extracts: Affect Heuristic

Angel	Original Language	English Translation
<i>Dimension: Conceivable Explanation</i>		
NO2	Kan de og forstår de sitt eget produkt? Klarer de å formidle det? Uh, og... jeg har ett eksempel som investor i et selskap på som jeg egentlig skjønner veldig lite på. Men, vedkommende... jeg fikk veldig tiltro på at vedkommende virkelig kunne dette her, inn til beinet. Uh, sant, og hadde en vært en sånn type nerd, som man sier, sant, men samtidig var ikke så nerd at du ikke kunne på en måte kommunisere, [ler] han kunne både kommunisere og var liksom oppegående på alle måter, men hadde det der ekstra, uh, genet som gjør at de er bra på ting og er interessert.	Do they know and understand their own product? Do they manage to convey it? Uh, and ... I have one example as an investor in a company that I didn't really understand that well. But, that person ... I got very confident that he really knew the subject, to the bone. Uh, you know, and he was that that kind of nerd, as you say, you know, but at the same time wasn't such a nerd that you couldn't communicate, [laughs] he could both communicate and was somehow [socially functioning], but still had that extra, uh, gene that makes them good at things and interested.
NO3	Hvis de pitcher så dårlig at, at jeg nesten knapt skjønner hva de egentlig... hvor de skal, uh, så er jo det en dårlig ting. Altså det er en litt sånn alarm: «skal jeg gidde å bruke tid på dette?»	If they pitch so badly that I only barely understand what they really are ... where they want to go, uh, then that's a bad thing. So it's a bit of an alarm: "Should I bother to spend time on this?"
USA3	If they had trouble explaining it to us, why they want or need the capital, what they're going to do with it, uh, and they can't do that in, you know, one sentence or two sentences, that tends to be something that we don't, that we probably wouldn't do. We'd have to ask too many questions about, you know, where is it going, what stage are you at: if it's not clear, we'd probably not do it.	
<i>Dimension: Non-Verbal Communication</i>		
NO2	Sant, tror du på de som står der og presenterer denne idéen, er de dedikerte nok, har de gründer-spirit, sant, er de gode ambassadører, skjønner de markedet... så teamet er kanskje det første du ser etter.	You know, do you believe in those who stand there and present their idea, are they dedicated enough, do they have an entrepreneurial spirit, you know, are they good ambassadors, do they understand the market ... so the team is the first thing you look for.
USA1	Well, I mean part of it is I have to really like the founders, you know, I mean, I, uh, I don't need to make investments, it's not my job to make an investment so, there's no reason to, to put these people under my life and really support them if I don't really like them.	
USA1	I bet I just have no desire to invest in something that someone says "Oh this is going to be a really big deal, this guy is a jerk but you should invest in him anyway, because you're going to make money," I just have no desire to do that.	
<i>Dimension: Intuition</i>		
NO3	Uansett så er det managementet som er det største, det er de du naturlig med én gang finner ut at det er, uh, der begynner det. Og har du en dårlig følelse på det fra begynnelsen, så blir du ikke trigget til å gå videre, sant?	Either way, it's the management that's the biggest, it's the ones you naturally find out right away that is, uh, where it begins. And if you have a bad feeling about it from the beginning, then you are not triggered to move on, right?
USA2	I think one time, I was looking at investing in a company and I just had a gut feeling about it, that it wasn't a good one to invest in. That proved to be correct.	
NO1	So I believe that... what I see over and over again is that a good team with a weaker product beats a weaker team with a better product.	

Table A3.3: Data Extracts: Confirmation Bias

Angel	Original Language	English Translation
<i>Dimension: Team</i>		
NO3	Så det handler om managementet, som jeg sier som [kriterie] nummer én, og det er om de er coachable. Hvis ikke de er coachable [...] så... da er det også litt sånn, «okei, da får de holde på.» For da finner de ut av det selv, lenger fremme i veien, men da er ikke jeg en del av det, sant.	It's all about management, which I say is [criterion] number one, and that's whether they're coachable. If they're not coachable [...] then ... it's a bit like, "okay, they're on their own" Because then they'll find out for themselves further down the road, but then I'm not a part of it, you know.
NO3	Hvem er gründeren, er det team, er de alene, hva slags kompetanse sitter de på de som har ideen, er de selgeren bak produktet som skal ut i markedet, eller er de en ingeniør, er de en tech, uh, litt sånn tech som ikke kan selge noe? Så må du jo se: hvem har de rundt seg, hvem samarbeider de med.	Who is the entrepreneur, is it a team, are they alone, what kind of expertise do they have, are they the seller behind the product, or are they an engineer, are they a tech, uh, the tech guy who can't sell anything? Then you have to see: who do they have around them, who do they collaborate with.
NO1	Then you look at the team [as a whole] [...] so you just have to go through the roles, uh and if you think everything from the CEO role, to the uh, to the marketing, to the finance role, uh, and see if you: first of all, if you think that each of them have that specific competence and, uh knowledge which is required.	
NO1	One thing is the commitment. If people are [pause] I like people that are able to jump all in, and give it a 100%. No part-time job on the side. No, uh, no situation where it "doesn't hurt if it doesn't work," and uh, I [pause] so [in cases] where the entrepreneur doesn't put in any money themselves into it, uh, who just want to finance a good idea and work part-time financing it: it's just not going to happen. They really have to be committed, and it has to hurt them as much as, uh, at all kind of levels, even if, if you're a student and you are starting out you're obviously not going to have the resources. If you are a grown person, then uh, I prefer you take out a loan on your house.	
USA2	I would pay less attention to things like what school they went to, for example, or what degrees they have, because I found in personal experience a lot of people who go to very prestigious schools are not very effective in practice [...] it's like, uh [pause] say, correlation does not mean causation [...] Yeah, a lot of people could be lazy, for example [laughs].	
<i>Dimension: Product-Market Fit</i>		
NO2	Det nytter ikke å ha et brilliant produkt hvis jeg ser at det bare er tre stykker som vil kjøpe det, sant, og det koster 18 tusen å utvikle det og bygge det... altså, sant, du må ha et marked for produktet.	It's no use having a brilliant product if I see that there are only three prospective customers, you know, and it costs 18,000 to develop it and build it... so, yes, you have to have a market for the product.
NO3	Så da er det jo du sier: «det kan godt være at du er først ute, fordi: enten så er du først ute, eller så er du størst, eller så er du billigst.» De tre tingene er ofte sånn derre kriterier. Men så er det ikke alltid lurt å være først ute. Fordi at de må du pløge den veien, sånn at andre kan, på en måte, bare komme til bordet, sant.	It's like they say, "you may be the first, because: either you are a first-mover, or you are the biggest, or you are the cheapest." Those three things are often criteria. But then it's not always wise to be first. Because then you have to plow the way so that others can, in a way, just come to the table, you know.
USA3	You have to have a product and you have to have sales, it's very sort of Shark Tank in that way, you know [laughs].	
<i>Dimension: Planning</i>		
NO2	Ja, altså hvis de har en budsjettmodell som ikke holder vann: at de skal selge for en halv milliard [ler] om noen år, som ikke holder vann. Og at de på en måte som har en markedsundersøkelse som baserer seg på at «ja, det er 5 millioner i Norge og de er 10% som eier en sånn dings, og vi skal selge til 10% av de igjen,» altså det blir sånn veldig... ja, når på en måte tallmaterialet ikke henger på greip.	It's like if they have a financial model that does not hold water: that they will sell for half a billion [laughs] in a few years, that does not hold water. And if their market research is based on "yeah, there are 5 million people in Norway and then 10 % of people these gadgets, and we will sell to 10 % of those people again," then it gets very... well, the numbers don't really give you that much.
X-atl	We have an investing example [that went bad], I mean, we uh [pause] it was a very high profile [...] a fantastic idea, they didn't really understand it, but it was fantastic. And, uh, it was this great guy, who had been within the [redacted] industry, was a top notch, uh, executive. And, I thought that when he wanted to go for this, I thought that this was going to be great, he would be able to pull it off [...] It didn't happen anyway: he was staffing, he had a fantastic... he was putting on a lot of costs, had been staffing up a great team, so he had a high burn, and guess what? He ran out of money.	
USA2	I think oftentimes a lot of entrepreneurs believe that they need money and actually they don't, they maybe need advice or some other kind of like, partnership or support that wouldn't just come with money.	

Table A3.4: Data Extracts: Elimination-by-Aspect Heuristic

Angel	Original Language	English Translation
<i>Dimension: Industry Differences</i>		
NO2	Men, det spørns jo hva slags type produkt det er: noen vil jo koste mye å, på en måte, uh, teste ut, sant. Legemiddelindustrien er jo et eksempel på det, som er ekstreme i den forstand, for da må du jo på en måte ha troen på teorien før de kan, på en måte, teste produktet. Så... ja, jeg er kanskje litt forsiktig da [ler].	But, it all depends on what kind of product it is: some will cost a lot to, sort of, uh, test, you know. The pharmaceutical industry is an example of that, which is extreme in that sense, because then you have to believe in the theory before you can even, in a way, test the product. So ... yeah, maybe I'm a little cautious, then [laughs].
NO1	The screening process also varies from which sector you are in, what kind of product it is. If it is a technical product you go through, uh, patent possibilities/no possibilities.	
<i>Dimension: Individual Preferences</i>		
USA1	I do not have a specific set [of criteria]. Generally, uh, generally, hmm [thinking] I would say I prefer to invest in companies that have already completed a first product so it may not be a really, uh [pause] fully formed product, it may not be the product that the company aspires to build but at least they have something to sell, they have some validation from customers that they want to buy a product from them, so, that's not 100% hard and fast rule but that would be something I am looking for. The thing about Angel investors is you can violate your [pause], your [tries to find another word than "criteria"] criteria at all time, you're only accountable to yourself so you can have criteria, but there's probably all these exceptions of the points [i.e., times] you having violated them [...] There is no, you know, outside board, there's no outside investors to be accountable to, so you can always decide to make a decision for around one particular investment opportunity that may not generally adhere to the stated criteria.	
<i>Dimension: Angel's Network</i>		
NO2	Spesielt siden jeg ikke er økonom, eller hvis du går inn i noen av de hvor du ikke har bransjeerfaring, da er det jo... du skal identifisere markedet og du skal også, uh, holdt på å si, kvalitetssikre tallene, da. Så, men da er det jo det at du enten gjør det sammen med noen i nettverket, eller at jeg har [familiemedlemmer] da som er gode på økonomi og sine ting, da, som jeg da på en måte kan kommunisere med.	Epecially since I'm not an economist, or if you enter any area where you don't have any industry experience, then it's ... you have to identify the market while also, <i>I almost said</i> [Norwegian proverb], conducting quality assurance. So then I either do it with someone in the network, or I utilize [family members] that are good at finance stuff that I can then somehow communicate with.
USA2	I think generally I have a pretty good network, and, but it's two-sided, where, because they're in the network it's more likely that I can get to know them and better evaluate them versus, say, a cold call to someone that I don't have an existing connection to [...] But, is it a criteria? I guess I would say that it being in my network I have maybe more trust and faith in it because I'm able to benefit from the opinions or the insight that whoever it is in my network already has.	

Table A3.5: Data Extracts: Social Cost Heuristic

Angel	Original Language	English Translation
<i>Dimension: Iteration</i>		
NO2	Det dårlige er jo hvis de prøver å gjøre det samme én gang til [ler]. Altså, hvis de ikke har lært av feilene sine eller at de på en måte nok en gang har et produkt som egentlig er liv laga, men det er så til de grader babyen deres at de ikke greier å se det store bildet. Og så har du de som på en måte kjevler på det produktet sitt i årevis, og de skal gjøre det perfekt, og det har du gjerne ikke tid til å vente på, at det må ut i markedet, sant, og så må du se om det faktisk er noen som vil kjøpe dette her, for det kan du ikke bruke ti år på – å gjøre produktet perfekt.	It's bad if they try to do the same thing one more time [laughs]. I mean, if they have not learned from their mistakes or, in a way, once again have a product that could actually see the light of day, but it is a baby for them that they are not able to see the big picture. Then you get those people who tinker with their product for years because they are going to make it perfect, and generally, you don't have time to wait that long for it to go to market, you know, and then you have to see if there is actually someone who wants to buy this thing because you can't spend ten years doing it - making the product perfect.
NO3	Så kan det være at på tidlig-tidlig fase, hvis det virkelig er gode gründere, da er det som oftest serie-gründere. Altså noen som har gjort det før. Uh, da kan det være veldig tidlig-fase, fordi de har jo gjort alle feilene før. For de er mye mere... altså de er to the point med én gang, du kjenner igjen at dette – de har kontroll på dette, de vet dette, de vet veien, de vet neste step-et og neste step-et. Da kan du gå inn veldig tidlig [...] Men samtidig så kan den serie-gründeren som det bare gikk smikk-smukk-smakk med, uh, ikke møtt de motstandene som de kanskje kan møte i det neste, fordi at det var et annet produkt, det var en litt annen ting, sant, at du tar for lett på oppgaven: «det gikk så lett her denne gangen, så det er jo bare å starte her igjen.» Og så gjør du akkurat det samme. Det er ikke copy-paste, vet du, det er jo... tiden har forandret seg, det kan være andre konkurrenter, og det kan være... ja. Så det der er jo sånn: det er ikke ett svar på det der. Det der er litt sånn typen. Da må du liksom ned i puddingen og finne ut på den, uh, gründeren som ikke lykkes, hvorfor han ikke lykkes – hva var det som... var det feil tid? Var de for tidlig ute? Altså, markedet var ikke modent nok, for eksempel?	What can happen early-stage is that, if they are really good entrepreneurs, they are usually serial entrepreneurs. So someone who has done it before. Uh, then you can go in early, because they've made all the mistakes before. Because they are much more... they are to-the-point right away, you recognize that - they are in control, they know this, they know the way, they know the next step and the next step. Then you can go in very early [...] But at the same time, the serial entrepreneur that hit it out of the ballpark, but uh, did not meet resistance that they might face next round, because it was a different type of product, a slightly different thing, you know, they might view the task as too easy: "Wow this was easy, let's just do it again!" And then they do exactly the same. It's not copy-paste, you know, it's ... time has changed, there may be other competitors, and it may be ... yeah. So that's the way it is: there's no one answer to that. That's kind of like the type. Then you have to sort of go "into the pudding" and find out, uh, the entrepreneur who failed, why he failed - what was it that ... was it bad timing? Were they too early? Maybe the market was not mature enough, for example?
USA1	What they are [pause] choosing to, you know, pursue or not, and [pause] so, even within a short amount of time you can see how they are evaluating things, how they are testing things, how they are altering their plans based on new information.	
USA2	Any entrepreneur is maybe not going to necessarily have like full on failures but they need to have learnings that they are iterating on, and changing their business or product as a result of.	
X-atl	Uh, so, uhm, [pause] or focus, usually, that's a lot of times, you know, you start very wide, you are not focused, when you are out of money you understand that: "oh, I didn't focus, this is the area I should have focused on." Uh, so, we really try to understand what they have done, and sort of what their journey, and why it was happening. Uh, and to see, you know, is this something that: "yeah, we learned from it." If it is a failure and they didn't learn from it then it's just a repetitive thing that you don't want to be part of.	
<i>Dimension: Norwegian culture</i>		
NO3	Her hjemme i Norge så er vi skrudd sammen litt annerledes [enn i USA]. Da er det sånn: hvis du feiler, så sitter alle forstå-seg-på-ene og så sier de: «jah, det var det jeg kunne sagt, visste jo at de ikke fikk det der til.» Fordi det at det er så enorm nedside her i Norge å ikke lykkes. For du kommer til å få alle de der som [sier]: «jeg visste at han der ikke kom til å få det til. Helt alvorlig, se på det der: si opp jobben, og så er det det derre greiene der?» Og det å miste det, det vil de [gründerne] ikke. Så dermed så [pause]... hva skal jeg si? Risikoen for å hive seg tidlig utpå, det henger lenger igjen, skjønner du? Det er derfor de sitter lenger og jobber med det og jobber med det, før de tar det ut i markedet, fordi de er så livende redd for at ikke de skal lykkes, at det blir en hemske for de. Så de sitter for lenge og holder på, før de er ute og tester i markeder. Mens i USA så er de ute med én gang, så justerer de, så er de ute og så justerer de, så henter de større kapital med én gang, fordi at der sitter pengene løsere, mens vi ikke sitter så løst med pengene. Vi er mye mer nøye med [due diligenccen]: «er det sånn, er det sånn, er det sånn?» Så det er vanskeligere å hente penger i Norge.	Here at home in Norway we are wired a little differently [than in the US]. Then it is like this: if you fail, then all the know-it-all smirk that "yeah, that's what I could see, I knew they wouldn't make it." Because there's such a huge downside here in Norway to failure. Because you have to face all those that say: "I knew that guy wasn't going to make it. Seriously, look at that guy: quit his job, and to do what, exactly? " Failing is then not an option. So then [pause] ... what should I say? The risk of taking chances is bigger, you know? That is why they sit longer and tinker before bringing it to market, because they are so vividly afraid that they will not succeed, that it will be a hindrance to them. So they sit for too long and hold on, before they go out and test in the market. While in the US they are out right away, they adjust, out again and then they adjust, they raise more capital right away, because over there money sits looser, while here we are not so loose with the money. We are much more careful about the [due diligence]: "is it like that, is it like that, is it like that?" So it is harder to get money in Norway.

The Cultural Tightness dimension consists of secondary data, i.e., not interview data

Table A3.6: Data Extracts: Availability Heuristic

Angel	Original Language	English Translation
<i>Dimension: Deciding Fast (Entrepreneur)</i>		
USA2	Because it's like placing a bet on a more risky opportunity, because I don't know, uhm, I could imagine a situation where if there is another investor that I trust and they've already gone through the due diligence and they've invested, then maybe I would be willing to, [thinks], uh that might help my process towards making a decision, but it wouldn't necessarily, [pause] it wouldn't necessarily stand on its own.	
X-atl	There should be reasons, you know, we don't want to see that: "yeah-yeah you want to go now, we have to answer right away," and then its not just not true. And when the founder starts to pull that on you, then you loose totally, if they're not... one thing is to be a good seller, but when its on the borderline of lying, then you don't really want to be associated with them. And, uh, so, one lady told me that: "yeah, you got to minimum write 50 000 dollars, and then you get in now," and then I need to reply within, eh, within three days. And I told her right there and then, before she said that: "I can write you a 25 000 dollar check," and then she gave me that story. And then I said: "nmhhh, okaaaay," uh, so then I didn't really want to be part of it any more, and then I waited, and two weeks later, she called back and said: "yeah, how about you can get in for 25?" [Then I replied:] "I don't think I want to do it," [laughs].	
NO1	I've never found that an angel investment is that crucial on speed: maybe on exit, but not on, uh, going into it. Uh, and [pause] I find that, uh, I always find that there is enough time to do a reasonable assessment, and if it shouldn't be then I just step out of it. There's enough cases that, uh... but I do agree: a lot of times, [pause] a lot of times entrepreneurs, uh, sound desperate, and are desperate, and want you to speed it up more than you have to, but that doesn't mean I [pause] are getting pulled into that or are speeding that up more than I have to. So, uh, I find there's always enough time to do a reasonable assessment.	
<i>Dimension: Deciding Fast (Co-Investors)</i>		
NO2	Hvis andre [engler] i miljøet er veldig positive, uh, og de hauser opp veldig eller de går god for det prosjektet og sånne ting, og du tenker at: «ja, denne personen er jo så flink, og han har jo vært i dette lenge, og har greie på det.» At du ikke nødvendigvis stoler blindt på de, at du på en måte blir revet med. Og det har jeg for så vidt blitt, uh [utsatt for], sånn til å begynne, men nå tenker jeg at du må på en måte kanskje sjekke flere kilder, kanskje tenke mer selv, eller igjen: ta min egen magesfølelse, så ja.	If other [angels] in the community are very positive, uh, and they stir up a lot or they vouch for that project and stuff like that, and you think: "yeah, this person is so good, and he's been doing this for so long, and . he knows what he is talking about." That you do not necessarily blindly trust them, and get too excited. And I've been, uh [exposed to], getting too excited when I started out, but now I think you have to in some way check more sources, maybe think more yourself, and again: trust my own gut feeling, so yeah.
<i>Dimension: Entrepreneur's Valuation</i>		
NO3	Jeg gjør jo det, men det gjør jeg ikke rett før jeg går inn, det gjør jeg for det at... alle pitcher jo for det at selskapet er verdt 10 millioner. Uh, så vi forhandler jo alltid på det. Det er veldig sjeldent det går inn på den summen som selskapet begynner på. Så vi... som oftest er det det at i veldig tidlig-fase, uh, så kan du si: «hvordan skal du regne verdien?» For det er jo ingen som vet ordentlig hvordan du regner verdien helt nede. Det er litt sånn [sutter på fingeren og holder opp], sant. Så kan de si: «jo, vi har brukt så og så mange timer, arbeidsinnsats, bla-bla-bla, og regnet inne at...» og da handler det mer om det at: har de en pilot-kunde, har de fått Innovasjon Norge med på... sant, så er det en verdi, uh, men stort sett så sier jeg det at... verdien er mer fem millioner enn ti millioner.	What I'll do is that, before I go in, is that because... well everyone pitches the company to be worth 10 million. Uh, so we always negotiate on that. It is very rare that the deal lands on the amount that the company proposes. So we ... what we most often do in the early stages is that we ask: "how are you calculating the value?" Because no one really knows how to calculate the value right down. It's kind of like [sucks finger and holds it up], right. Then they can say, "yeah, we have spent so-and-so many hours of work, blah-blah-blah, and figured out that ..." when it instead would be much better if they had a pilot customer, if Innovation Norway supports them ... you know, that is valuable, uh, but usually I say that ... the value is more five million than ten million.
NO3	Så, ja, er jo selvfølgelig at vi kan se, uh, om det er en exit-mulighet her, eller er det en større aktør som kan komme inn og kjøpe opp på én eller annen måte [...] Er det andre samarbeidsklime som du ser litt frem i gaten?	And then, we often look for, possible future exit opportunities, or whether there are any big players that can come in and acquire it, in one way or another [...] Are there new alleys for cooperation further down the road?
X-atl	Ehm, well, if we see that this is [pause], if the pricing is way too high, if it doesn't make sense. That they don't really have a product, and they price it way up in the sky, then I would think: "oh," [laughs].	

Table A3.7: Data Extracts: Deference-towards-the-Archangel Heuristic

Angel	Original Language	English Translation
<i>Dimension: Control</i>		
NO3	Jeg sier: «har du tenkt på...» «har du vurdert...» for vi kan aldri mene [...] vi kommer aldri til å overstyre gründeren, men vi må gi de noen verktøy eller noen tips og ideer sånn at de får tenkt igjennom. Så når jeg har gjort det, så sier jeg at: «helt flott, jeg har kommet med det innspillet, og så får du tenke på det. Og så får du ta det opp med den styrelederen du har og høre, for da kan du finne ut av det.» Så [sier de ofte]: «veldig god idé, jeg har aldri tenkt på det.»	I say: "have you thought about ..." "have you considered ..." because we should never assume [...] we should never override the entrepreneur, but we must give them some tools or some tips and ideas so that they can utilize. So when I've done that, I say that: "Great, I've given you that input, and now you think about it. And then you go and discuss it with the chair of the board, and then you'll figure it out." And then, [they often say]: "Very good idea, I've thought of that."
NO1	I do feel that uh, it's important to have two hands on the wheel. So when I go in, [I want to] have a saying in all major decisions. So even if I'm not a 50% investor, uh, I certainly make sure I have the rights to vote for 50%. So uh, and that's pretty much to say about all the private equity firms going in: even if they are 50% investors, they have uh, they act like they are 50% investors. So uh, yeah, so then you at least... then you have a saying on how future financing is going to be, you have a saying in all major decisions: on management, on financing, on those things. So that's kind of my, uh, my absolute, uh [pause] my absolute rule, that I need to have that as an angel investor, I need to have that saying.	
USA1	If you are a good investor you're there to help, but you're not trying to run the business, there should be a strong line: "these are the people running the business, these are the people advising."	
<i>Dimension: Hands-On</i>		
USA2	Hmm, yeah I wouldn't say I'm "trying to make sure," that they succeed, because in my mind that means it's more like hands-on and directive help, whereas I'm trying to provide support, and answer questions rather than be very directive and controlling [...] and I think in general I prefer to see the entrepreneur owning the decision, making the decision, as I know, as an entrepreneur, I don't like someone making a decision for me, because, as an example, as an investor I'm not, like, running the business day-to-day, and I'm not having to live with the consequences of the decisions, and so I don't think it's my place to be making day-to-day decisions for them.	
<i>Dimension: Stepping In</i>		
NO3	[In cases where the investment is perceived to be at stake] da handler det om å være coachable, «enten så velger dere nå å gå nedennom og hjem, fordi dere krangler, og...» og mener og det blir ingenting ut av det, og det kommer ingen vei «eller så må dere bli enige om å kjøpe ut den ene, for han er ikke så interessert i å gå videre,» altså han ødelegger for resten, for eksempel. Så da må vi være tydelig på at, «jo vi kan ha troen, men her må det struktur inn i bildet,» og det får de ved å komme til oss, for vi er vant til å se det, altså i [BAN]	[In cases where the investment is perceived to be stake] then it is about being coachable, "either you choose to go down now, because you argue, and ..." and have meanings about everything and nothing, "or you agree to buy out that guy, because he is not so interested and should move on," instead of ruining it, for example. So then we have to be clear that, "yes we can have the faith, but then you need to bring structure into the picture," and they get that by coming to us, because we're used to seeing it [in this BAN]
NO3	[...] okei, de er ute etter å hente tre millioner, og så sier vi at: "okei, vi er fire stykker som går inn, du får ut en og en halv nå, men vi forplikter oss til én og en halv neste år hvis du har levert på de del-målene her,» sant. Det er for å holde de i ørene, for at de faktisk skal jobbe fremover, og virkelig levere på de... holdt på å si, de delmålene som vi har blitt enige om da. Og hvis ikke de gjør det, så er det ikke garanti for at de får de neste én og en halv.	[...] okay, they are looking for three million, and then we say that: "okay, we're four people going in, you get a million and a half now, and we'll commit to another one and one half next year if you've delivered on these milestones," you know. It's to <i>hold them by their ears</i> [Norwegian proverb], so that they go forward, and really deliver on those ... <i>I almost said</i> [Norwegian proverb], sub-goals that we've agreed upon. And if they do not, then there is no guarantee that they will get the next one and a half.
USA1	You definitely need to step... you know, your money is at stake, so you definitely need to step up if you think things are going really wrong, and certainly [...] I don't shy away from telling people that I'm concerned, so for example if a company has, keeps telling me "we're going to launch this new product, we're going to launch a new product," and then, you know, every few months I hear that they're going to launch they still don't launch, I will sometimes [...] dive into what's happening, and I feel very fine to say, [pause], "what about this and that," and to suggest changes, uh, and to, if they want me to, to get very involved [I will do that, for example by resolving team conflicts or help staffing up for missing roles], but that has to be a very explicit decision that I'm, I'm stepping out of one kind of role and I'm stepping into a different kind of role, and so we do it very consciously if that's going to happen.	