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Decision making in entrepreneurial firms: investigating the role of resources through theoretical and empirical lenses

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List of abbreviations and acronyms

CD	Capability divergence
Dr.	Doctor
EBSCO	Elton B. Stephens Company
e.g.	Exempli gratia (for example)
ER	Emotional resources
et al.	Et alii (and others)
FR	Financial resources
HLM	HLM
i.e.	Id est (that is)
ICC	Intraclass correlation coefficient
IR	Informational resources
MD	Mission divergence
NA	Not available
OPT	Optimism
Prof.	Professor
SD	Standard deviation
SE	Standard error
VIF	Variance inflation factor

Abstract

Entrepreneurs' decisions related to resources are complex but crucial for the development of their ventures. This dissertation contributes to increase our understanding of how entrepreneurs decide over their ventures' resources from a theoretical and empirical perspective. First, considering that literature at the intersection of entrepreneurial decision making and resources has so far resulted in fragmented insights, I perform a systematic review research. Based on the analysis of literature published over the last 50 years by employing a comprehensive coding approach, I offer a process map of entrepreneurial resource stages across the lifecycle of an entrepreneurial venture in essay I of this dissertation. Moreover, my literature review also outlines promising avenues for future research. Second, essay II of this dissertation empirically investigates entrepreneurs' pivoting decisions as a strategic decision that critically shapes the development of new ventures. Drawing on notions from the resource-based perspective and the model of behavioral self-regulation, my second essay develops a model of entrepreneurs' pivoting assessments. Further, this model is tested by using a metric conjoint experiment and data on 2,180 pivoting assessments nested within 109 entrepreneurs, which reveal significant interactions between resource availability and entrepreneurs' levels of optimism in explaining their pivoting assessment policies. Accordingly, this dissertation offers contributions to the academic conversations on entrepreneurial decision making and resources, pivoting, and optimism in entrepreneurship.

Keywords: entrepreneurial decision making, entrepreneurial resources, behavioral self-regulation, strategic venture decisions, entrepreneurial pivoting, resource availability, entrepreneurial optimism.

1 Introduction

1.1 Conceptual background

Entrepreneurs' constant strive to make the right decisions at the appropriate time is at the heart of their quest to achieve and maintain success for their ventures. Indeed, decisions such as opportunity evaluation (Haynie, Shepherd, & McMullen, 2009), resource mobilization trajectories (Clough, Fang, Vissa, & Wu, 2019), potential strategic venture change (Kirtley & O'Mahony, 2020), and tie formation (Desa & Basu, 2013), as well as many other numerous choices, accompany entrepreneurs throughout their journey. Entrepreneurship scholars commonly agree that entrepreneurs must perform all these decisions in a complex environment (Dew, Read, Sarasvathy, & Wiltbank, 2009; McVea, 2009; Shepherd, Williams, & Patzelt, 2015; Ucbasaran, 2008), characterized by uncertainty arising from unknown and unknowable information (Barreto, 2012), that makes it difficult for them to select a specific course of action. While uncertainty is present in the myriad of decisions involved in the development of a new venture, entrepreneurs might face a particularly challenging context when strategically deciding how to best manage their venture's resources.

Prior research exploring the role of resources in the entrepreneurial landscape establishes that besides experiencing the already "known liabilities of newness and smallness" (Zahra, 2021, p. 2), entrepreneurs confront additional difficulties when making decisions related to the mobilization and orchestration of their venture's resources. On the one hand, entrepreneurs commonly make choices situated in environments where intense competition for scarce resources takes place among different ventures (Castrogiovanni, 1991). As such, their decisions might be strongly determined by their desire to avoid threats (Goll & Rasheed, 2016), which can severely limit their discretion for making choices (DeTienne, Shepherd, & De Castro,

2008). On the other hand, entrepreneurs are importantly constrained by their lack of experience in managing resources (Brinckmann, Salomo, & Gemünden, 2005), which might not only decrease their information processing efficiency (Ucbasaran, Westhead, & Wright, 2009), but also, contribute to increasing the information asymmetry with respect to potential resource providers (G. Cassar, 2004). While possessing an overall complex nature, entrepreneurs' decisions related to the management of available resources are a cornerstone of entrepreneurial action (Zahra, 2021) and thus, essential to foster the successful development of their ventures.

Although jointly insightful, extant literature situated at the intersection of entrepreneurial decision-making and resources is subject to some critical issues that obstruct the overall progress in the field. First, previous scholars have consistently employed ambiguous labels for referring to key concepts (Clough et al., 2019) and in doing so, they have "hindered the cumulation and convergence of findings" (p. 241). For example, studies on entrepreneurs' resource bundling decisions utilize various alternative terms, such as resource configuration (Amit & Han, 2017; Borch, Huse, & Senneseth, 1999), resource allocation (Symeonidou, Leiponen, Autio, & Bruneel, 2022), or resource assembly (Brush, Edelman, & Manolova, 2008) to refer to the same concept, overall contributing to a fragmentation of findings in the field. Second, scholars have recently lamented that extant literature lacks an organizing framework able to yield conclusive insights that explain how entrepreneurs manage their resources (Zahra, 2021), thus increasing the difficulty for drawing the missing conceptual links that are needed to establish a process-based perspective of entrepreneurs' decisions associated with resources (Clough et al., 2019) within the context of their ventures. Third, despite prior work in entrepreneurial decision-making highlighting the importance of addressing entrepreneurs' heterogeneity in terms of their personality to understand how they make decisions (J. R. Mitchell, Friga, & Mitchell, 2005; Shepherd et al., 2015), existing studies

provides surprisingly few insights into how differences between entrepreneurs might contribute to divergences in the way they decide to utilize their venture's resources.

This dissertation offers potential contributions to the aforementioned research stream by addressing two core aspects. First, scholars have recently begun to underscore the "several questionable assumptions" (Zahra, 2021, p. 1) made by prior studies that investigate how entrepreneurs decide to make use of their available resources. While recent reviews have highlighted the need to acquire a process perspective that allows for a deeper understanding of the different stages through which resources unfold in the entrepreneurial context (Clough et al., 2019; Zahra, 2021), we still lack a systematic review that clarifies the different resource stages identified in extant research (Sirmon, Hitt, & Ireland, 2007; Zahra, 2021) and sheds light on their temporality with respect to the development of an entrepreneurial venture (Sullivan & Ford, 2014). Second, previous studies acknowledging the heterogeneity that exists among entrepreneurs have predominantly focused on demographic factors, such as education (Jabbari, Roll, Bufe, & Chun, 2022; Neeley & Auken, 2009), prior experience (Gruber, MacMillan, & Thompson, 2012; Mai & Zheng, 2013) or immigrational background (Pauli & Osowska, 2019) to explain how entrepreneurs decide over their venture's resources. However, since entrepreneurs personalities are also heterogeneous (J. R. Mitchell et al., 2005; Shepherd et al., 2015), exclusively attending to entrepreneurs' observable characteristics might lead to considerable voids in our understanding of how they perform assessments.

1.2 Research objectives

Entrepreneurs' decisions related to resources within the context of their ventures are complex (Sirmon et al., 2007) and involve multiple dynamic interactions between different factors (Clough et al., 2019). However, gaining a deeper comprehension of how these decisions are made is essential to build a more fine-grained understanding of value creation through

entrepreneurial activity (Zahra, 2021). This dissertation builds on two essays that aim to support this endeavor from both, a theoretical and empirical perspective, by elucidating the different choices associated with resources that entrepreneurs perform, as well as by shedding light on the effects that entrepreneurs' own characteristics and context exert over these decisions.

To achieve this objective, the essays that compose this dissertation address two research questions. First, as argued above, literature situated at the intersection of entrepreneurial decision-making and resources still lacks an organizing framework that enables our understanding of the different processes associated with resources in the entrepreneurial landscape, as well as the decisions that intervene in them. Furthermore, there is still a clarity deficit on the temporal distribution of these processes across the lifecycle of an entrepreneurial venture. Given that literature in this field has become "increasingly fragmented" (Clough et al., 2019, p. 240), performing a holistic synthesis of existing research (Kraus et al., 2022) seems essential to, on the one hand, draw insights from prior scholarly work in a "methodological, comprehensive, transparent, and replicable" (Siddaway, Wood, & Hedges, 2019, p. 751) manner. On the other hand, systematically reviewing extant literature might also be helpful for the subsequent integration and evaluation of prior findings.

The first essay of this dissertation (Chapter 2) therefore focuses on the development of a systematic literature review, offering a process perspective of resources and decision-making in the entrepreneurial context. Furthermore, this essay also seeks to outline potentially fruitful avenues for future research in the field. In particular, the first essay of this dissertation answers the following research question:

> ***Research question 1:*** *How do entrepreneurs decide over their venture's resources and what are the pressing questions without answer in this field?*

Second, further acknowledging entrepreneurs' heterogeneity as a crucial component of their assessment policies is essential to better understand how they make the strategic decisions that will impact the future development of their ventures. There are indeed manifold strategic decisions that strongly influence entrepreneurial ventures, such as internationalization (Domurath & Patzelt, 2016; Terjesen & Elam, 2009a), entry to a new market (E. Y. Zhao, Ishihara, & Jennings, 2020), or formation of a strategic alliance (Eisenhardt & Schoonhoven, 1996; Hubbard, Pollock, Pfarrer, & Rindova, 2018). However, pivoting decisions are particularly critical for shaping the trajectory of a new venture, since they imply that entrepreneurs make the purposeful choice of selecting a new strategy that enables their ventures to adapt (McDonald & Gao, 2019) through the redirection of resources and activities (Kirtley & O'Mahony, 2020) as a means to increase its potential (Berends, van Burg, & Garud, 2021). Therefore, studying entrepreneurs' pivoting decisions can generate rich insights for the entrepreneurial decision-making literature (Shepherd et al., 2015; Ucbasaran, 2008) in general, as well as for the growing body of work on entrepreneurial pivoting (Hampel, Tracey, & Weber, 2020; Kirtley & O'Mahony, 2020).

The second essay of this dissertation (Chapter 3) thus offers an empirical investigation of entrepreneurs' pivoting decisions. In particular, this study explores the role that resource availability as well as the entrepreneurs' heterogeneous personality characteristics play in shaping their pivoting assessments. Therefore, the second essay of this dissertation answers the following research question:

> ***Research question 2:*** *To what extent do entrepreneurs optimism levels shape their perceptions of the value of available resources when they are assessing a potential pivot?*

1.3 Methodological approach and data set

As previously outlined, this dissertation investigates entrepreneurs' decisions related to resources within the context of their ventures. This requires first and foremost, to methodically address the ambiguity present in this stream of research to enable a comprehensive understanding of the different processes associated with resources in the entrepreneurial landscape, as well as the decisions that intervene in each of them. Developing an organizing framework for extant literature in this field might thus not only support the amalgamation of prior findings but also, enable the identification of important gaps left by previous studies. Based on this underpinning, empirical work supported on the insights generated by prior scholars might be undertaken.

Following this rationale, I[1] employ two different methodological approaches to answer the research questions that guide the development of this dissertation. First, I develop a systematic review of the literature situated at the intersection of entrepreneurial decision-making and resources. Given the conceptual issues lamented by prior scholars (Clough et al., 2019; Zahra, 2021), I follow Siddaway and colleagues' (2019) advice of "bringing together and integrating" (p. 750) insights from previous literature in the field. Specifically, I engage in a comprehensive and detail-oriented process (Tranfield, Denyer, & Smart, 2003) to methodologically search for, analyze, and synthesize findings of literature published over the last 50 years of research. To do so, I analyze the 104 articles included in my final sample and develop a coding approach focused on the recognition of the specific entrepreneurial decisions studied in each article. Furthermore, I also code all selected articles according to various parameters, such as their abstract, keywords, publication year, employed theoretical perspective(s), level of analysis, and methodology. I therein take a process-based perspective and propose an organizing framework

[1] For ease of reading, "I" is consistently employed in this dissertation. However, essay II was developed along with co-authors, as outlined in chapter 1.4. To reflect this, chapter 3 utilizes the pronoun "we" instead of "I".

anchored in the notion that resources undergo different stages across the lifecycle of an entrepreneurial venture, in which multiple decisions take place. I further acknowledge that these stages possess both, a sequential and iterative nature. Finally, I outline promising avenues for future research.

Second, I focus on the empirical investigation of entrepreneurial pivoting as a strategic decision that critically shapes the development of new ventures by applying an experimental study. To undercover the extent to which resource availability and the entrepreneurs' levels of optimism shape their assessments of a potential pivot, I make use of a metric conjoint experiment (Louviere, 1988; Shepherd & Zacharakis, 2018), which is a quantitative method that requires individuals to make a series of assessments based on profiles that are built upon attributes relevant to these decisions (Shepherd, Aguinis, Boyd, Pierce, & Short, 2010). Given its capability to capture participants' actual decisions and discompose them into their underlying structure (Shepherd, Zacharakis, & Baron, 2003), this methodological approach has been consistently employed in prior studies of entrepreneurial decision-making (Domurath & Patzelt, 2016; Fu, Tietz, & Delmar, 2022; Kier, McMullen, & Kuratko, 2021). I collected answers from a final sample 109 entrepreneurs who completed our online research instrument, containing both, the conjoint experiment and a subsequent post-experimental questionnaire. As these answers generate a nested data structure of decisions nested within entrepreneurs, I therein employ Hierarchical Linear Modeling (HLM) for statistical analysis (Raudenbush & Bryk, 2002) of the participants' answers.

1.4 Dissertation structure

This dissertation is composed by two essays. The first one of them (Chapter 2) builds on extant research on entrepreneurial decision-making and resources to offer a systematic literature review along with an organizing framework and an outline of identified avenues for future research in the field.

The second essay of this dissertation (Chapter 3) provides an empirical study of entrepreneurs' pivoting decisions. This investigation was conducted along with Prof. Dr. Nicola Breugst and Prof. Dr. Dr. Holger Patzelt as my co-authors, who advised me in terms of theoretical development, execution of the experiment, and reviewed the manuscript. Earlier versions of this manuscript were improved through scholarly feedback provided at the Babson College Entrepreneurship Research Conference 2022 (Waco, Texas) and the 81st Annual Meeting of the Academy of Management (Seattle).

Finally, Chapter 4 completes this dissertation by outlining theoretical implications, limitations, and avenues for future research. I provide an overview of the essays that integrate this dissertation in Table 1.

Table 1. Overview of dissertation essays

Essay title	*Entrepreneurial decision-making and resources: A systematic literature review*	*To pivot or not to pivot? The role of optimism and resources in entrepreneurs' assessments of a potential pivot*
Research question	How do entrepreneurs decide over their venture's resources and what are the pressing questions without answer in this field?	To what extent do entrepreneurs optimism levels shape their perceptions of the value of available resources when they are assessing a potential pivot?
Methodological approach	Systematic literature review	Metric conjoint experiment analyzed through HLM
Data set	Article identification using the Web of Science and EBSCO Business Source Complete databases Inclusion of 104 articles published between 1972 and 2022	Online research instrument containing the experiment and subsequent post-experimental questionnaire Data on 2,180 pivoting assessments nested within 109 entrepreneurs
Findings	Analysis and synthesis of literature insights in the field of entrepreneurial decision-making and resources, development of a process-based organizing framework and outline of promising avenues for future research	Resource availability is a key component of entrepreneurs' assessments of a potential a pivoting situation. Furthermore, their influence is contingent on the entrepreneurs' heterogeneous personality, represented by their levels of optimism
Implications	Literatures on entrepreneurial decision-making and resources within the context of new ventures	Literatures on entrepreneurial pivoting, decision-making and entrepreneurial optimism

2 Entrepreneurial decision-making and resources: A systematic literature review

2.1 Introduction

Entrepreneurs need resources to develop their ventures (Choi & Shepherd, 2004b) and acquire a competitive advantage in the environment in which they operate (Barney, 2001). Importantly, entrepreneurs face a highly complex environment when strategically deciding how to best manage their venture's resources. In particular, as they suffer from liabilities of newness (Stinchcombe, 1965b) and must navigate through scarcity conditions (Reypens, Bacq, & Milanov, 2021), they confront difficult operational choices (Crick, Crick, & Chaudhry, 2020) and face ethical dilemmas (Baron, Tang, Tang, & Zhang, 2018) associated with deciding how to mobilize resources into their ventures and efficiently orchestrate them.

Prior scholars have thus granted abundant attention to the development of research at the intersection of entrepreneurial decision-making and resources. However, scholarly efforts in this field have so far been characterized by the consistent employment of ambiguous labels for key concepts (Clough, Fang, Vissa, & Wu, 2019) and the significant absence of an organizing framework. Indeed, scholars have recently regretted that these critical omissions have led prior literature into overlooking fundamental questions that could help explain how entrepreneurs manage resources (Zahra, 2021) within the context of their ventures. While Clough and colleagues (2019) literature review takes an initial step to open the "black box" (p. 241) that obscures our comprehension of the processes associated with entrepreneurial resources, they focused exclusively on the mobilization of resources into entrepreneurial ventures. Importantly, entrepreneurs engage in crucial evaluations as they select which resources to mobilize in the first place. Moreover, they also decide over the available resources once they have been transferred into their ventures. Therefore, there is still a void in our understanding

of the processes that take place *before* and *after* the mobilization of resources, which are equally important for the development of entrepreneurial ventures.

To enable a comprehensive understanding of how entrepreneurs decide over their ventures' resources, I follow scholars' exhortation to acquire a process-based perspective (Clough et al., 2019). Specifically, I review extant research findings and propose an organizing framework for future research that considers the stages that resources undergo across the entire lifecycle of an entrepreneurial venture. Based on the analysis of literature published over the last 50 years, I aim to support future scholarly endeavors by identifying the decisions entrepreneurs take in each resource stage, acknowledging the sequential and iterative nature of resource stages, and outlining promising avenues for future research in the field.

2.2 Methodological approach

I conducted a systematic literature review (Kraus et al., 2022; Siddaway et al., 2019; Tranfield et al., 2003) to draw insights from the cumulative body of research at the interface of resources and decision-making in the entrepreneurial context in a "methodological, comprehensive, transparent, and replicable" (Siddaway et al., 2019, p. 751) manner. In line with the recommendations for conducting a systematic literature review outlined by Snyder (2019), I defined the specific research question during the initial stage of my review design. Thus, this review aims to answer the question: *How do entrepreneurs decide over their venture's resources and what are the pressing questions without answer in this field?* To do so, I engaged in a comprehensive and detail-oriented search process, as proposed by Tranfield et al. (2003).

2.2.1 Article selection

To ensure the systematicity of my literature review, I started the search process by building on existing literature to identify relevant key words and search terms (Tranfield et al., 2003). My key word search was thus informed by the highly cited review by Shepherd, Williams, and Patzelt (2014) on entrepreneurial decision making, with some adaptations. First, I substituted the term decision* for deci*, to capture other grammatical forms of the word, such as decide or deciding. Second, I added the term resource* to include in my sample those articles situated at the interface of resources and entrepreneurial decision-making. Furthermore, guided by (Siddaway et al., 2019), I utilized two different electronic databases to "find all available published and unpublished work" (p.760) addressing my research question. I hence recurred to the Web of Science and EBSCO Business Source Complete databases to search for articles containing: *(1) (resource*) AND (2) (deci* or inference* or preference* or judge*) AND (3) (entrepreneur* or founder*)*. During my Web of Science search, I additionally placed category filters for articles listed in the areas of business, economics, management, psychology, or psychology multidisciplinary. To further increase the accuracy of my results, I focused my search in the Social Sciences Citation Index (SSCI) and Social Citation Index Expanded (SCI-Expanded).

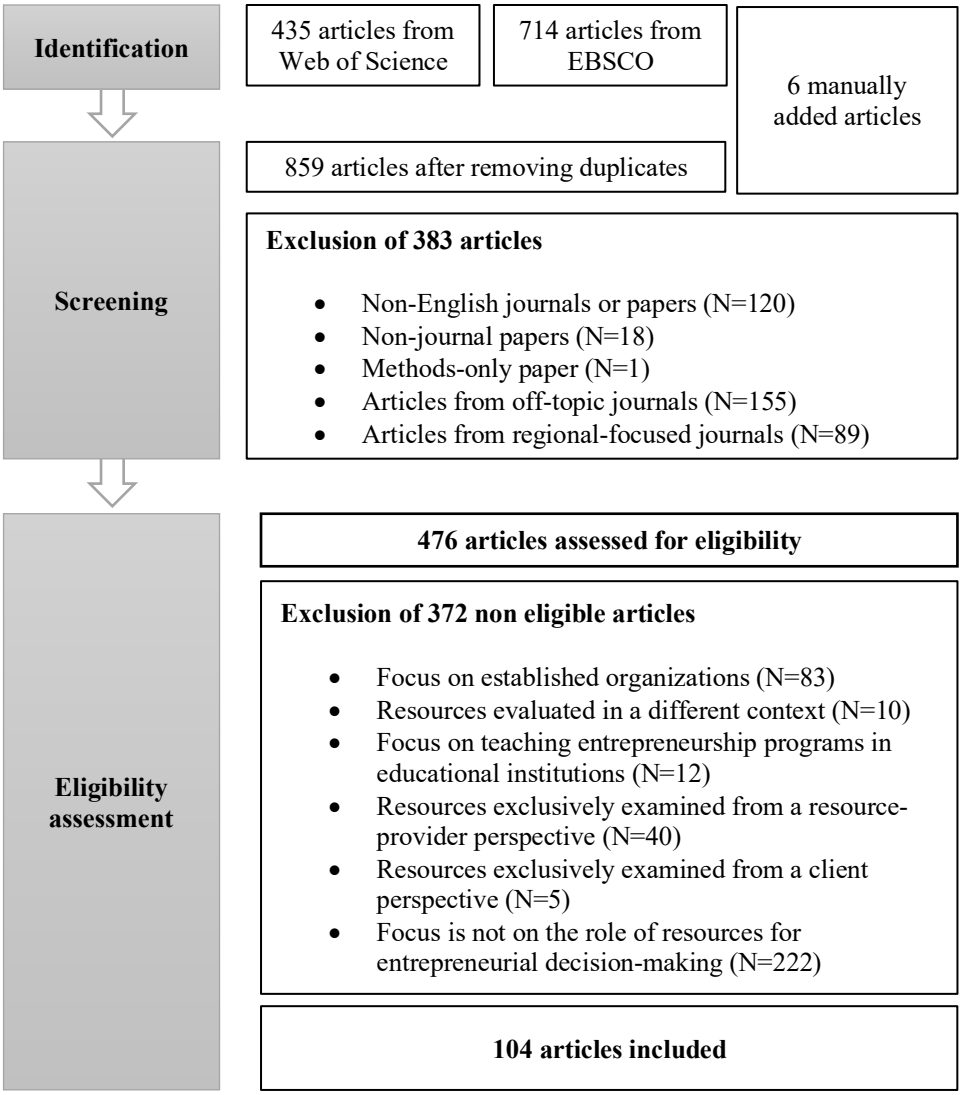
The systematic search yielded 435 articles proceeding from the Web of Science database and 714 articles from EBSCO Business Source Complete. Next, I manually added further articles in the field, primarily identified through engagement with literature reviews in my initial database. Although relevant for the field, these articles did not match my initial search because they employed different expressions to denominate decision-making (for example, Clough and colleagues (2019) referred to the outcome-generating responses of an individual shaped by their dispositions and situational factors, while Alvarez and Busenitz (2001) spoke about

entrepreneurs' cognitive ability as a shaping factor of resource utilization). To collect a comprehensive body of cumulative evidence allowing to draw robust conclusions (Siddaway et al., 2019), I then merged all identified articles in a database containing a total of 1115 publications.

Next, I located and removed all duplicates that originated from merging the databases and screened the resulting 859 articles in accordance with Moher et al. (2015). I read the titles, abstracts, keywords, and journals of all identified publications and then removed journals or papers not written in English and non-journal papers, such as interview records or book reviews. Furthermore, I removed articles from off-topic journals and articles from journals with a regional focus and followed (Shepherd et al., 2014) in excluding articles that were primarily a research methods paper. The screening stage thus resulted in 476 articles entering the eligibility assessment. I present my literature identification, screening, and eligibility assessment approach in Figure 1 and provide an overview of excluded journals in Appendix 1.

I then assessed the eligibility of articles and excluded those that mainly focused on established organizations. This occurred, for instance, in articles studying large corporations' attempts to replicate entrepreneurial attitudes and capabilities in an effort to enhance organizational resource utilization (e.g., Barney, Foss, & Lyngsie, 2018; Perks & Hughes, 2008; Verbeke & Yuan, 2022), or in studies exploring transnational corporations choices to invest in the development of joint ventures and spin-offs (e.g., Garrett, Mattingly, Hornsby, & Aghaey, 2020; S. H. Park & Kim, 1997). Furthermore, I excluded articles that focused on evaluating resources in a distant context, such as environmental resources (e.g., Ābele, Zeltiņa, Šimanskiene, & Burgis, 2012; Crow, 2010; Sun & van der Ven, 2020) and articles directed to teaching entrepreneurship in educational institutions, without actually studying entrepreneurs or their ventures (e.g., Culkin, 2016; Cumberland, 2016; Ma, Lang, Liu, & Gao, 2020).

Figure 1. Literature identification, screening, and assessment (Moher et al., 2015)

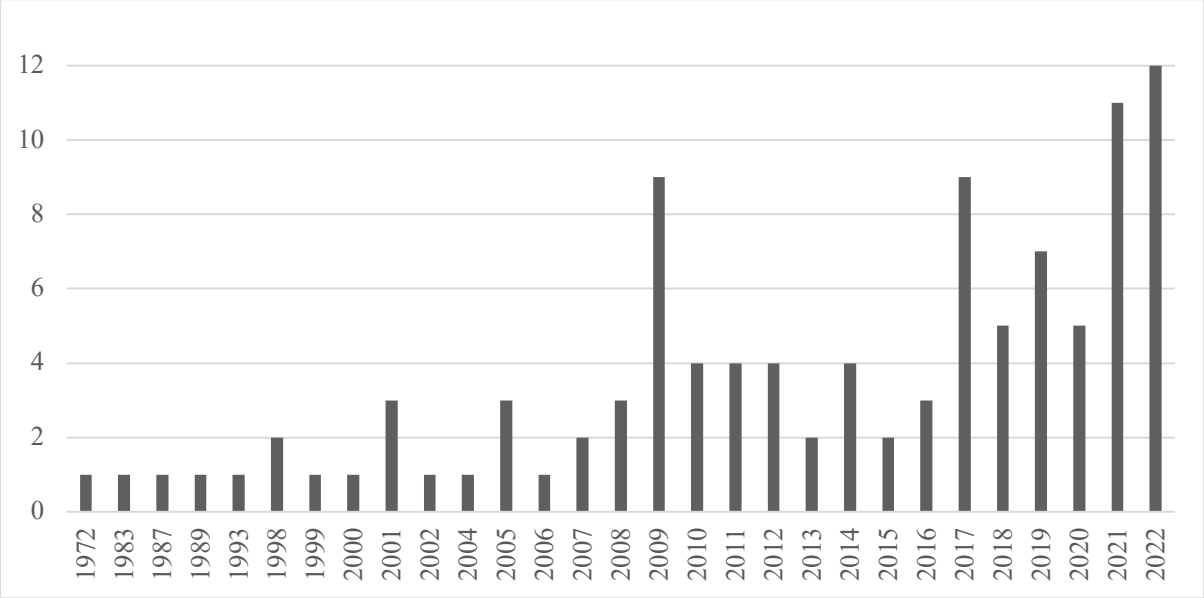


Moreover, I excluded articles examining the topic exclusively from either a resource-provider perspective, such as those undercovering the dynamics behind investors' decision-making policies (e.g., Huang, 2018; Miller & Wesley, 2010; Pollack & Bosse, 2014), or from a client perspective –for instance, those exploring the venture's customers' choices (e.g.,Chow, Fung, & Ngo, 2001; Redwood & Ford, 2012). Finally, articles that only incidentally mentioned "resources" in the abstract, but which main focus was not set on entrepreneurial decision-making and resources (i.e., studies rather exploring other entrepreneurship-related topics) were also excluded from the sample (e.g.,Greckhamer, 2010; Kollmann, Stöckmann, & Kensbock, 2017; Morgan, Sui, & Baum, 2018). Overall, the eligibility assessment process resulted in a set of 104 articles included for further review and analysis.

2.2.2. Description of articles

My final article selection incorporates a comprehensive selection of 104 articles, published between 1972 and 2022. While generally maintaining a positive trend, publications in the field presented two drastic increases over the analyzed timeframe, indicating rising interest in research at the intersection of entrepreneurial decision-making and resources during the years 2009 and 2021 (see Figure 2). Interestingly, both years were preceded by exogenous shocks with sizeable consequences for the entrepreneurial landscape. Specifically, the global financial crisis of 2008 and the coronavirus pandemic in 2020. Both events created adverse conditions for entrepreneurial ventures (Stephan et al., 2022), forcing them to modify their decision-making patterns for the sake of resource preservation and ultimate firm survival. Therefore, the drastic increases in the number of publications in these years are likely a consequence of the growing concern of the academic community to scientifically explore the phenomenon and generate literature-anchored guidelines for practitioners.

Figure 2. Number of articles at the interface of resources and decision making in the entrepreneurial context by publication year



Further, articles in my sample are located across a wide spectrum of journals that focus on different research fields. For instance, my sample includes leading outlets in the field of management –such as the Journal of Management (six articles) and the Academy of Management Review (three articles) and entrepreneurship –such as the Journal of Business Venturing (eleven articles) and Entrepreneurship Theory and Practice (five articles). However, my sample also includes more specialized journals, like the Journal of Small Business Management (3 articles) and Small Business Economics (six articles). Although the articles in these outlets are predominantly empirical (86%), I also identified relevant conceptual and review articles (14%). Moreover, my analysis allowed me to identify that articles in my sample are grounded within prominent theoretical frameworks, such as the resource-based view (RBV) of the firm (e.g., Haynie et al., 2009; Nason, Wiklund, McKelvie, Hitt, & Yu, 2019), resource dependence theory (e.g., Granz, Lutz, & Henn, 2020; Katila, Piezunka, Reineke, & Eisenhardt, 2022; Siu & Bao, 2007), and network theory (e.g., Chang, Memili, Chrisman, Kellermanns, &

Chua, 2009; Robertson, O'Reilly, & Hannah, 2020), thus highlighting the relevance of the field for various perspectives and literature streams.

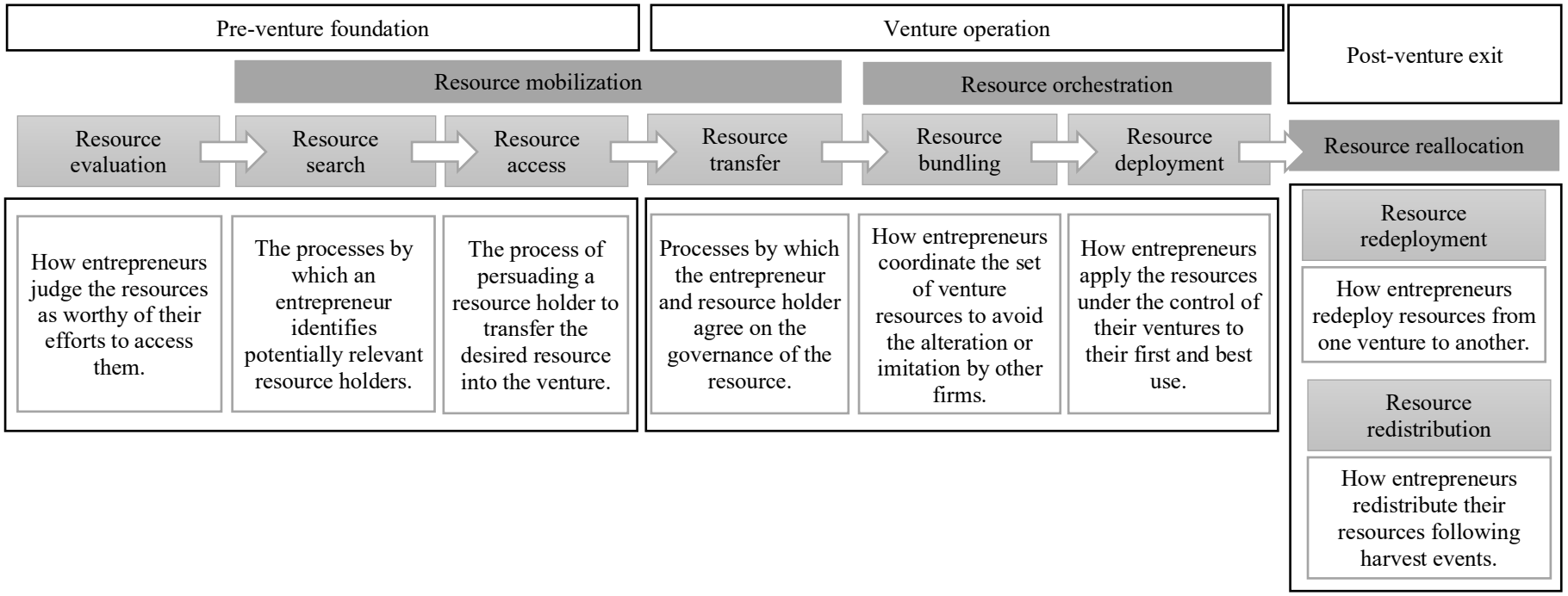
2.2.3 Data analysis

I analyzed the 104 articles included after the eligibility assessment. In line with the objective of understanding how entrepreneurs decide over their venture's resources, I developed a coding approach focused on the recognition of the specific entrepreneurial decisions studied in each selected article. While following this approach, I identified that literature typically associates the studied decisions with certain resource stages (i.e., resource search, resource access, resource transfer, resource bundling). Thus, I searched within my sample for exemplary articles to provide a definition for each of these stages, grounded in existing literature. Building on this understanding, it became evident that studies emphasize some of these stages as part of a process. For instance, the stages of resource search, access, and transfer constitute the resource mobilization process, as outlined by Clough et al. (2019).

To address the growing complexity of my data structure, I created a process map for visualization purposes, which allowed me to locate each resource stage, along with their associated definitions and processes within a diagram. Moreover, this enabled the recognition that the identified resource stages and processes are temporally distributed across the lifecycle of an entrepreneurial venture. As such, I proceeded to assign the corresponding labels of "pre-venture foundation", "venture operation", or "post-venture exit" to each of the identified resource stages (see Figure 3). Thereafter I analyzed the title, abstract and full-text version of every article and coded it according to the venture lifecycle stage it explored, resource process, resource stage, and associated entrepreneurial decision-making. For those cases in which the article studied two different resource stages (2% of the coded articles), I included both stages, as well as their respective studied entrepreneurial decisions in the coding in order to ensure a

comprehensive assessment of my sample. Furthermore, I also coded the articles according to their abstract, keywords, publication year, employed theoretical perspective(s), level of analysis, and methodological approach.

Figure 3. Process map of entrepreneurial resource stages across the lifecycle of an entrepreneurial venture



2.3 Resources and decision-making in the entrepreneurial context: a process perspective

Based on my coding and findings, this section of the literature review offers an organizing framework of the entrepreneurial resource stages across the lifecycle of a venture that aims to bring further clarity into the research stream at the intersection of entrepreneurial decision-making and resources. For every identified resource stage, I review the decisions that entrepreneurs make, as well as their shaping factors and potential outcomes.

2.3.1 Pre-venture foundation

Prior to foundation, entrepreneurs must gather the resources needed to establish their ventures, which leads them to engage in resource evaluation activities, as well as in the first two stages of resource mobilization (Clough et al., 2019). While my analysis indicates that research on resource evaluation is only emerging (out of all 104 analyzed articles, 3 recent articles address the resource evaluation stage), the scholarly field of resource mobilization is already well anchored within entrepreneurship research. Particularly after Clough and colleagues' (2019) literature review on resource mobilization, the field has experienced an accelerated conceptual and empirical development.

2.3.1.1 Resource evaluation

An important but frequently overlooked resource stage concerns their evaluation –that is, the process through which entrepreneurs establish relevant attributes that allow them to judge a certain resource as worthy of their subsequent efforts to access them (Kemmerer, Walter, Kellermanns, & Narayanan, 2012). The scarce development of literature exploring resource evaluation might be partly explained by methodological complexities. Given that this resource stage is inherently linked to entrepreneurial cognition (Felin, Kauffman, & Zenger, 2021) and internal cognitive processes in which the entrepreneur engages to perform assessments are

difficult to determine empirically (Blume & Covin, 2011), scholars might often find limitations to provide insights on the cognitive mechanisms that intervene in entrepreneurs' resource evaluation processes.

Despite these potential complexities, scholars have begun to shed light on the attributes that entrepreneurs utilize as cues for their resource evaluations. In an early study grounded in the resource-based tradition (Alvarez & Busenitz, 2001; Barney, 2001), Kemmerer et al. (2012) established that entrepreneurs judge the importance of resources based on four main attributes: (1) value, (2) rareness, (3) inimitability, and (4) nonsubstitutability. The multilevel study evaluating decisions nested within entrepreneurs revealed that entrepreneurs are willing to make trade-offs between these attributes to increase their ventures' chances of success. This finding is interesting, since theory establishes that all four attributes critically impact entrepreneurial outcomes. However, the study undercovers that further factors, such as cognitive biases or institutional constraints can substantially impact entrepreneurs' resource judgements. Importantly, there are further resource characteristics that seem to shape entrepreneurs' resource evaluation processes. Through an experimental study employing mixed methods to understand entrepreneurs' choices, Granz et al. (2020) found that resource complementarity is a prominent characteristic stirring entrepreneurs' judgements, because it provides early indications of the degree of dependence that their ventures would develop with respect to potential resource providers.

Further understanding of the mechanisms behind entrepreneurs' resource evaluation processes may also be found in conceptual work. For instance, Felin et al. (2021) recently made use of parallelisms between biology and resource identification to explain how the decision to exercise actual problem-formulation enables entrepreneurs to generate specific images of new and valuable resources. Similar to organisms ignoring irrelevant environmental stimuli,

entrepreneurs can easily overlook available resources that do not possess the specific properties they are looking for. Therefore, performing "investments in information processing" (p.4) can help entrepreneurs to produce more accurate resource evaluations, because only then, they would have a precise image of the resource they are looking for. Conceptually, this process is an antecedent to the resource search stage, in which entrepreneurs focus on locating resources that meet the attributes they have –either consciously or unconsciously– specified as relevant.

2.3.1.2 Resource search

Resource search denotes "the processes by which an entrepreneur identifies potentially relevant resource holders" (Clough et al., 2019, p. 244). While research has often conceptualized resource search as a straightforward process, limited to seeking resources among entrepreneurs' existing networks (Clough et al., 2019), resource search is a complex process, characterized by uncertainty on where valuable resources might reside (Grossman, Yli-Renko, & Janakiraman, 2010) and whether the selected provider is the best source for them (Katila et al., 2022). My analysis revealed that entrepreneurs make several decisions in the resource search stage, which I review in the following.

Tie formation: Entrepreneurs prioritize finding powerful "sources of resources" (Desa & Basu, 2013, p. 30) for their ventures. However, this is a time-consuming (Hite, 2005) and costly (Felin et al., 2021) process, which implies that entrepreneurs must simultaneously assess multiple potential relationships. Literature addressing tie formation frequently relies on insights from network theory (Burt, 1992) to understand how these relationships are formed. As noted in a recent review by Kwon, Rondi, Levin, De Massis, and Brass (2020), when valuable resources cannot be located within entrepreneurs' existing ties, they would make the choice of recurring to a broker to find the desired resources. Importantly, crucial ties can also be broken (Westphal & Zhu, 2018), hence forcing entrepreneurs to select alternative

mechanisms to restore the possibility of finding valuable sources. In a recent longitudinal study, Smith and Autio (2022) distinguished between different techniques employed by entrepreneurs to make up for broken ties. They found that posturing (i.e., exaggerating one's interest on a specific tie), status sequencing (i.e., establishing key relationships on a status-based sequence), geographic sequencing (i.e., establishing key relationships based on their location), and opportunistic maneuvering (i.e., manipulating resource holders' opportunism) are effective mechanisms that entrepreneurs select to create new resource-locating ties.

Another prominent theoretical framework used for explaining entrepreneurs' ties formation decisions is resource dependence theory (Pfeffer & Salancik, 2003). Through a field study exploring the partner selection choices of 935 entrepreneurs, Katila et al. (2022) found that they commonly face significant trade-offs, as they confront the dilemma whether they should choose a small resource provider that could grant them access to more resources, or a larger partner that would give them less market access, but enhanced reputation. Research finds that entrepreneurs navigate these dilemmas by pursuing different strategies. For instance, Grossman et al. (2010) established that entrepreneurs often assess the utility of their contacts, based on their perceived potential of providing resource multiplexity –characterized by a resource holders' ability to provide multiple resources at the same time. Moreover, Vissa (2011) employed a matching theory lens and found that social similarity and task complementarity are two further important criteria that entrepreneurs use to determine the potential contacts they would like to build a tie with.

Crowdfunding decisions: When identifying potential resource holders, entrepreneurial ventures' lack of reputation can be a strong limitation, as it might make resource holders hesitant to accept entrepreneurs' advances to start an exchange relationship (Lechner & Leyronas, 2009). However, entrepreneurs can navigate this uncertainty by choosing to engage

in a crowdfunding platform (Murray, Kotha, & Fisher, 2020). Indeed, crowdfunding is "an alternative way of raising financial resources from a broader online community of supporters" (Hertel, Binder, & Fauchart, 2021, p. 2) chosen by many entrepreneurs to "raise small amounts of money from a large group of individuals" (Tuo, Yi, Sarpong, & Wang, 2019, p. 1).

Extant research on entrepreneurs' crowdfunding decisions reveals that both, individual-level characteristics, and contextual factors determine the development of online crowdfunding campaigns. Through a longitudinal study of campaigns in the Kickstarter crowdfunding platform, Tuo et al. (2019) found that entrepreneurs' personality characteristics influence the campaigns' evolution, as their risk awareness predetermines the funding goal that will be set for the campaign. Furthermore, entrepreneurs' risk awareness was also found to be a predictor of the timely delivery of Kickstarter projects in the estimated delivery date –which is one of the platform's requirements, as entrepreneurs who more readily perceive risk systematically avoid making decisions that might compromise the scheduled delivery date. Focusing on contextual factors shaping entrepreneurs' crowdfunding decisions, Murray et al. (2020) found that time further influences the development of online campaigns, as entrepreneurs choose between three distinct processes to identify resource holders over time: at campaign launch, entrepreneurs employ *community building* to establish psychological bonds with potential resource providers. During the campaign, *community engaging* helps entrepreneurs to further foster social identification with potential resource providers. Moreover, *community spanning* is utilized after the campaign to leverage intermediaries that can help to increase the number of potential resource providers.

Selection of feedback providers: Research on entrepreneurs' selection of feedback providers typically follows the resource-based tradition in recognizing information as a "key resource" (Cooper, Folta, & Woo, 1995, p. 107) that entrepreneurs combine in unique and creative ways

when starting a new venture (Alvarez & Busenitz, 2001). Importantly, entrepreneurs might not always have the necessary information available and might therefore choose to find external sources to validate the effectiveness of their judgements (Drencheva, Stephan, & Patterson, 2022). Existing literature identifies two paths for entrepreneurs to access valuable business information from a more experienced counterpart. First, entrepreneurs might recur to selecting an incubator entity. Indeed, one of the most important functions of an incubator is to foster the exchange of information that increases entrepreneurs' knowledge (Patton, 2013) and enhances their learning through mentoring possibilities (van Weele, van Rijnsoever, Groen, & Moors, 2019). However, choosing an incubator is not a trivial decision for entrepreneurs, who might experience concerns regarding the protection of their intellectual property (Lockett & Wright, 2005) or potentially face conflicts with the incubating entity (McAdam & Marlow, 2016). Thus, literature on this research stream has been mainly concerned with determining the relevant criteria that entrepreneurs use to judge the adequacy of external sources of business information. For instance, van Weele et al. (2019) applied an experimental design and found that entrepreneurs' assessments of the attractiveness of potential incubators are positively related to their perceptions of support available at the focal incubator. Specifically, the study revealed that incubators' legitimacy, potential affiliations (e.g., to companies or universities) as well as industry focus are relevant attributes shaping entrepreneurs' incubator choices.

Second, entrepreneurs might also focus on selecting individuals as potential providers of valuable business information. For instance, Drencheva et al. (2022) recently investigated the selection criteria behind social entrepreneurs' choices of feedback providers and found that their perceptions play an important role in the decision. In particular, entrepreneurs' perceptions of experience, trustworthiness, engagement, and accessibility were found to increase the desirability of the potential feedback provider, as judged by the entrepreneur.

While overall insightful to shed light on some of the decisions that entrepreneurs make while identifying potentially relevant resource holders, research on resource search is still insufficient to provide a comprehensive explanation of the mechanisms underlying this stage. For example, literature remains silent on how team-level interactions, such as differences in judgements between venture co-founders, might affect perceptions of what a "relevant" resource holder could be. Moreover, contextual factors (e.g., resource scarcity, institutional environment), that might further shape how entrepreneurs approach the resource search stage, have also been largely neglected. Indeed, Clough and colleagues (2019) regretted that literature "overlooks how the entrepreneur *searches* for resources in the first place" (p. 241), which can be further confirmed through the analysis of my sample.

2.3.1.3 Resource access

To exploit the identified opportunities, entrepreneurs must first gain access to the resources they need (Wang, Thornhill, & De Castro, 2017). As such, existing research on resource access describes the processes associated with persuading a resource holder to transfer the desired resource(s) into the venture (Clough et al., 2019). While not explicitly making this distinction, literature frequently examines decisions on this resource stage by taking two opposing but complementary perspectives: when the resource holder is an external actor and when the resource holder is the entrepreneur him or herself. I review research findings on both streams in the following.

External actor as the resource holder: Prior literature investigating entrepreneurs' access to resources via external actors can be divided into two main categories. First, several studies examine how entrepreneurs choose to relate with potential resource holders and engage in persuasion efforts. Some of the studies in this field (e.g., Baron et al., 2018; Robertson et al., 2020; Wang et al., 2017) have acquired the perspective of the entrepreneur as a purely

opportunistic agent, mainly focusing on their own wish to acquire resources from investors. For instance, Robertson et al. (2020) found that entrepreneurs' decisions to cultivate specific network ties are determined by their desire to access specific resources that the identified resource holder owns. However, one study diverges from this standpoint. Huang and Knight (2017) employed an exchange theory lens and found that entrepreneurs will decide to focus on exchanging financial resources with their investors when they have a purely instrumental relationship with them –one characterized by the focus on task-relevant content. If entrepreneurs, however, develop an affective relationship with their investors –one that reflects socioemotional commitments–, they will decide to additionally, exchange social resources with them, such as information and solidarity.

Second, scholars have explored entrepreneurs' access to resources by taking a gender view. Findings from this stream have consistently highlighted that when entrepreneurs make the decision to seek investors, gender norms persistently favor men over women entrepreneurs (e.g., Gatewood, Brush, Carter, Greene, & Hart, 2008; Pfefferman, Frenkel, & Gilad, 2021). While local gender norms seem to be more relevant in some societies than others (Kwon & Arenius, 2010), Roomi (2011) found that moral support on behalf of the entrepreneurs' family can act as a buffer by encouraging the resource seeking decisions and behaviors of women entrepreneurs. Given the salience of gender for entrepreneurs' resource access decisions, it is surprising that only one article in my sample examined the divergence between men and women entrepreneurs' access to resources (Pfefferman et al., 2021).

Entrepreneur as the resource holder: Another branch of literature examining entrepreneurs' decisions in the resource access stage considers the entrepreneur him or herself as the focal resource holder. Unlike research regarding an external actor as the resource holder, research in this field does not operate under the implicit assumption of resource scarcity as a determinant

of entrepreneurs' choices. Indeed, scholarly work viewing entrepreneurs as the resource holders rather consider endowments of existing resources that they possess at the start of their journey (e.g., Gruber, MacMillan, & Thompson, 2010; Pe'er, Vertinsky, & King, 2008). As such, this stream of research explores the processes through which entrepreneurs decide upon transferring a resource that they already own into their nascent organizations. Consequently, work in this field either examines: (1) the entrepreneur as a decision maker, or (2) entrepreneurs' decision to start a venture.

Overall, research studying the entrepreneur as a decision maker focuses on understanding *who* is the individual that chooses to start a venture and thus primarily investigates entrepreneurs' individual characteristics, such as education (Jabbari et al., 2022), migrational background (Pauli & Osowska, 2019), or on-the-job embeddedness (Mai & Zheng, 2013). For instance, Pauli and Osowska (2019) employed a mixed methodology approach and found that migration increases the resource endowments of individuals returning to their home country after working abroad and in doing so, it increases their willingness to start a new venture. Furthermore, extant research informs that resources owned by individuals are not only relevant for the choice to start a venture, but also impact prior stages, such as opportunity identification. Building on the resource-based view of the firm (Penrose, 1959), Gruber et al. (2010) found a positive relation between prior experience and the number of identified entrepreneurial opportunities.

Research focusing on venture foundation decisions mainly explores entrepreneurs' choices to enable venture foundation through the utilization of their own existing financial resources. Although a high-risk decision, since it can lead to personal bankruptcy (Fan & White, 2003), this determination seems to be largely stirred by entrepreneurs' individual characteristics (Chandler & Hanks, 1998; Pe'er et al., 2008). For instance, Chandler and Hanks (1998) found that entrepreneurs' perceptions of their own capabilities significantly impact self-funding

choices, as individuals who believe in their ability to recognize and take advantage of entrepreneurial opportunities are more likely to utilize their personal savings for starting their ventures –i.e., as opposed to recurring to outside financing sources. Second, contextual factors, such as location (Manolova, Brush, & Edelman, 2011) or local gender norms (Welsh, Kaciak, Trimi, & Mainardes, 2017) are further relevant for this decision. Through a field study with 137 women entrepreneurs in Brazil, Welsh et al. (2017) showed that lack of access to financing mechanisms for women due to cultural issues, drives women entrepreneurs to use their own savings to enable venture foundation. In doing so, the authors highlight that entrepreneurs' decision to utilize personal resource endowments can be either a product of their own motivation and goals, or "forced" by the surrounding environment.

2.3.2 Venture operation

Once entrepreneurs have evaluated, searched, and accessed critical resources, they switch their focus to making decisions that will impact their newly established ventures. As such, during venture operation, entrepreneurs engage in resource transfer and orchestration processes. My analysis indicates that resource transfer is the most frequently investigated stage of resource mobilization (23 out of 44 articles). Furthermore, guided by Sirmon, Hitt, and Ireland's (2007) notion that orchestrating resources comprises activities related to their bundling and leveraging to create value, I propose that entrepreneurs orchestrate their resources when they engage in the resource bundling and resource deployment stages.

2.3.2.1 Resource transfer

Resource transfer denotes the "processes by which the entrepreneur and resource holder agree (explicitly or implicitly) on the governance of the resource, including allocation of property rights over the resource deployment and the resultant created value" (Clough et al., 2019, p. 244). Existing literature suggests that resource transfer is a multi-faceted stage, primarily

characterized by permeating boundaries to enable the use of specific resources (Zobel & Hagedoorn, 2020) and evaluating the transaction costs that stem from these agreements (Williamson, 1985). My analysis reveals that during the resource transfer stage, entrepreneurs' decisions can be grouped into three main categories: degree of control, choice of mobilization trajectories, and entry decisions. In the following, I review research findings of prior work investigating these decisions.

Decisions over the degree of control: Extant research highlights that entrepreneurs strongly benefit from the transfer of resources flowing into their ventures, as these resources can be used to enable market entry (De Massis, Audretsch, Uhlaner, & Kammerlander, 2018) and venture internationalization (Ripollés & Blesa, 2016), as well as to improve the venture's reputation (Hsu, 2004). Notably, accepting the transfer of resources on behalf of external providers also entails a series of repercussions for entrepreneurs and their ventures, such as loss of autonomy (Arvidson & Linde, 2021), need to continuously sustain legitimacy in the eyes of stakeholders (Wang et al., 2017), or potential frictions stemming from disagreements between the parties (Collewaert, 2012). Consequently, during the resource transfer stage entrepreneurs must ultimately decide how much control over their ventures should they retain. Prior literature distinguishes between three key factors shaping this decision. First, individual characteristics of the entrepreneur, such as entrepreneurial self-efficacy (De Simone, Pileri, Rapp-Ricciardi, & Barbieri, 2021), risk aversion (De Massis et al., 2018), and frugality (Michaelis, Carr, Scheaf, & Pollack, 2020a) all seem to stir entrepreneurs' preferences toward making choices associated with maintaining a high degree of control over their ventures after resource transfer. For instance, De Massis et al. (2018) found that when evaluating venture internationalization, high levels of risk aversion lead entrepreneurs to focus on a specific niche in favor of keeping requirements for the transfer of resources on behalf of external providers "controllable" (p. 130). Second, existing resource endowments of the entrepreneur further influence their

decisions over the degree of control. Through a longitudinal study, Holtz-Eakin, Joulfaian, and Rosen (1994) found a positive relation between entrepreneurs' receiving inheritance money and their decisions to remain as their venture's sole proprietor over a period of five years. This is an interesting finding, since it underscores that even when entrepreneurs might still be lacking other important resources to develop their ventures (e.g., informational resources or reputation), constraints of financial resources are at the heart of their decisions to give away control over their ventures to enable resource transfer with external providers. Third, networking practices are also related to entrepreneurs' decisions of accepting equity investments (Ripollés & Blesa, 2016) and ceding venture control (Mezgebo, Ymesel, & Tegegne, 2017). Specifically, entrepreneurs who actively engage with other members of their network are less likely to accept external investments on their ventures (Ripollés & Blesa, 2016). It seems that knowledge sharing between network members acts as an enabler of adaptation and coordination within their ventures, which is a compelling finding that points out at possible compensatory effects between the types of resources that entrepreneurs can exchange with their cohort members, and the financial resources that they can exchange with investors.

Mobilization trajectories: Most of the articles in my sample (18 out of 23) consider that the agreement on a resource's governance proceeds exclusively between the entrepreneur and an external actor playing the role of a provider. However, few papers acknowledge that resource transfer can also take place merely based on the entrepreneur's determination when choosing "alternative" resource mobilization trajectories. An emerging body of research grounded in the social constructivist perspective (Berger & Luckmann, 1967) recognizes that the value of a resource is dependent on the cognition of the specific individual evaluating it. As such, a particular resource discarded by an actor can be judged as highly valuable by another. Indeed, Clough and colleagues (2019) acknowledge that the utilization of alternative resource

mobilization trajectories "requires unilateral action to recognize and realize the latent potential of some possible resource" (p. 255). The analysis of my sampled articles reveals that entrepreneurs employ three different alternative resource mobilization trajectories: (1) bricolage, (2) bootstrapping, and (3) jugaad.

First, entrepreneurs employing bricolage (i.e., "bricoleurs") deal with environmental resource scarcity by finding new purposes for the resources discarded by others and recombining them to create value (Baker & Nelson, 2016). For instance, an entrepreneur might face resource constraints by taking an online course to learn how to design their own website or find honorary workers that might be willing to do it for free. In line with the notion that bricolage relies on individual's cognition to recognize the value of a discarded resource, Wang, Yu, and Meng (2021) found that entrepreneurial teams composed by members of diverse functional backgrounds make bricolage-consistent decisions more often than entrepreneurial teams with limited diversity among its founding members. While Reypens et al. (2021) found empirical evidence that bricolage is most prominent during the initial phases of venture operation, this tendency seems to be contingent on individual's characteristics, as highly frugal entrepreneurs will continue to make decisions consistent with the principles of "making do with what is at hand" (Baker & Nelson, 2016, p. 329), even in environments characterized by extensive resource availability (Michaelis et al., 2020a).

Second, a theoretical equivalent to bricolage in context of financial resources is bootstrapping (Clough et al., 2019), which comprises the set of techniques used by entrepreneurs to gain or supplement the financial resources needed for venture operation (Neeley & Auken, 2009). When bootstrapping, entrepreneurs recur to, for instance, the utilization of credit cards or loans from life insurance to finance their ventures (Auken, 2005) and in doing so, they make an alternative choice to "avoid market-based resource transactions" (Grichnik, Brinckmann,

Singh, & Manigart, 2014, p. 311) entailing arrangements with external resource providers. Through a field study with 247 entrepreneurs, Neeley and Auken (2009) found that entrepreneurs' decisions to use bootstrapping techniques are a function of both, characteristics of the entrepreneur, as well as characteristics of the resources. Specifically, highly educated, younger, and male entrepreneurs are more likely to choose bootstrapping over traditional resource mobilization trajectories, such as equity investments. Presumably, the higher earning power of this group is associated with their preference for bootstrapping. Furthermore, entrepreneurs also ponder the obtainability of resources and select bootstrapping when traditional sources of financial resources are difficult to obtain.

Finally, one recent article in my sample identified a third alternative resource mobilization trajectory entrepreneurs can choose to transfer resources into their ventures. Following a mixed methods approach, Agarwal, Chakrabarti, Prabhu, and Brem (2020) found that social entrepreneurs face additional constraints and organizational dilemmas to transfer resources. Importantly, some social entrepreneurs navigate these dilemmas by using *jugaad*, defined as a flexible and inclusive approach to innovation and entrepreneurship (Krishnan & Prashantham, 2018; Prahalad & Mashelkar, 2010) that, unlike bricolage, "involves *building* frugal resources to meet social demands" (Agarwal et al., 2020, p. 420). Social entrepreneurs thus solve their additional dilemmas by engaging in jugaad practices, such as *asset multiplication* (i.e., building new assets that can be used for multiple purposes to drive down costs), *human capital leveraging* (i.e., hiring inexperience local workforces and training them for multiple functions to minimize costs), *building social embeddedness* (i.e., building relationships with local communities to ensure a continuous flow of customers for the venture), and *affordable quality* (i.e., maintaining quality standards that are financially accessible to different customer segments). Since maintaining external resource holders engaged to sustain venture operation is particularly challenging for social entrepreneurs (Mittermaier, Shepherd, & Patzelt, 2022), it is

surprising that my sample of articles does not contain further research investigating how jugaad practices help social entrepreneurs to transfer resources to secure the operation of their ventures.

Entry decisions: Scholarly attention to entrepreneurs' entry decisions during the resource transfer stage focuses on two key topics: the choice of timing for the entry and the selection of industry to enter. First, entrepreneurs' decisions on entry timing are crucial for the development of their ventures: while an earlier entry allows entrepreneurs to gain control of key resources over subsequent entrepreneurs entering the market (Y. L. Zhao & Parry, 2012), a later entry enables them to gain valuable information by learning from others (Lévesque, Minniti, & Shepherd, 2009). Extant research identifies individual characteristics of the entrepreneur are decisive for their entry timing choices. For instance, Y. L. Zhao, Song, and Parry (2014) found that entrepreneurs' perceptions of control are positively associated with their choices to enter as first movers. Specifically, the heightened perceptions of control of these entrepreneurs leads them to emphasize potential preemptive advantages (i.e., a pioneer's ability to gain preferential control over critical resources (Lieberman & Montgomery, 1998)), thus triggering early entry decisions. However, characteristics of the venture's environment also seem to be relevant for deciding over the entry timing, as environmental hostility reduces entrepreneurs' possibilities to learn from others and therefore drives early entry decisions (Lévesque et al., 2009). Second, the environment in which the venture operates also seems to influence the selection of industry to enter, as ventures operating in innovation-driven countries will be more likely to choose entering a knowledge-intensive industry, such as information technology (IT) or financial services. However, ventures operating in efficiency-driven countries will be more likely to enter a capital-intensive industry, such as construction of engineering.

2.3.2.2 Resource bundling

Research focusing in the resource bundling stage investigates how entrepreneurs coordinate their heterogeneous set of venture resources to avoid the alteration or imitation by other firms (Alvarez & Busenitz, 2001). My analysis indicates that, although conceptually approaching resource bundling decisions, scholars utilize different terminology to refer to this stage, such as resource configuration (Amit & Han, 2017; Borch et al., 1999), resource allocation (Symeonidou et al., 2022), or resource assembly (Brush et al., 2008). Overall, this persistent utilization of diverging terms demonstrates that Clough and colleagues' (2019) criticism of scholars employing inconsistent labels across articles is not limited to research on resource mobilization, but further extends to scholarly work on resource orchestration. Articles in my literature sample explore both, antecedents, and outcomes resource bundling decisions. While research on antecedents focuses on the construction of a resource bundle and the internal assignation of human resources, research exploring outcomes of resource bundling explores mainly entrepreneurs' choices of venture strategy. In the following, I review research findings of literature investigating these decisions.

Entrepreneurs' decisions to construct bundles of resources: When constructing new bundles of resources, decisions are oriented toward combining the resources under the venture's control in a "new package that is deemed (or judged) by the entrepreneur as likely to be able to add value" (Mathews, 2010, p. 226). Indeed, the resource bundling stage is based on the Penrosean logic that individual resources are not relevant to entrepreneurial decision-making themselves, but rather, the bundles of resources that create value (Kor, Mahoney, & Michael, 2007; Penrose, 1959). As such, entrepreneurs must decide on the elements of the "packages" that are most likely to generate the greatest value for their ventures. Extant research indicates that entrepreneurs take two main factors into consideration when choosing the

resources that will be used to create a bundle. First, entrepreneurs base their decisions on the characteristics of the resources available. More specifically, on the resource complementarity between them –that is, the property of resources fitting together within the landscape of a coherent venture plan (Mathews, 2010). Second, entrepreneurs might choose to cooperate with other members of their network to create value, which occurs, for instance, in the context of value co-creation with venture's customers (Tuan, 2017) or in strategic alliances with other venture's stakeholders (Moghaddam, Bosse, & Provance, 2016) . When cooperating with other actors, entrepreneurs take the characteristics of their networks into consideration. For instance, Amit and Han (2017) established that structural properties of the network are salient for the creation of resource bundles, as entrepreneurs select between acting as (1) integrators (i.e., by transforming in exchange for customer's financial resources), (2) collaborators (i.e., collaborating with customers to efficiently address their specific demands), (3) transaction enablers (i.e., by acting as a bridge to enable transactions between multiple groups of value co-creators), or (4) bridge providers (i.e., by directly using their own resources to cover the needs of a secondary network member). Furthermore, resource bundling decisions are also dependent on the expectations (Brush et al., 2008) and individual characteristics (Arroteia & Hafeez, 2020; Cohen & Wirtz, 2021) of the entrepreneur. For instance, Cohen and Wirtz (2021) found empirical evidence of a positive relation between entrepreneurs' control orientation and resource bundling efficiency. It appears that these entrepreneurs are more likely to think in advance of all the resources their ventures might need, and how they can best fit together in a bundle, which in turn, helps them to create optimal bundles. This stream of literature thus exposes further nuances of resource bundling decisions and their variability as a function of entrepreneurs' personality characteristics. In doing so, it offers an interesting and complementary notion to the traditional Lachmannian rationale of resource bundling as the

product of logical choices made by entrepreneurs solely focused on accounting for their resources and their potential recombinations (Lachmann, 1947).

Internal assignation of human resources: Another prominent topic explored in the resource bundling literature is how entrepreneurs decide on the internal assignation or allocation of human resources within their ventures. Indeed, the specific measures undertaken by entrepreneurs to add complementary resources to an existing bundle is what allows ventures "to take specific actions (e.g., marketing, R&D, etc.)" (Sirmon et al., 2007, p. 281). As such, entrepreneurs' decisions to allocate employees to the existing functional departments of their ventures are at the heart of the resource bundling stage. My analysis reveals that literature frequently examines these decisions with a focus on the venture's strategy (Long, Wood, & Bennett, 2022), as entrepreneurs face the dilemma of choosing between a broad strategy (i.e., simultaneously building their R&D, production, and marketing functional areas) and a focused strategy (i.e., building one functional area at a time) (Symeonidou et al., 2022). Interestingly, Long et al. (2022) recently employed data from a longitudinal survey design and found that while ventures with a broad strategy suffer from weakened performance when predominantly hiring employees for one functional area, this effect reversed for ventures with a focused strategy, boosting their performance over time. Apparently, ventures with a focused strategy are characterized by a less complex task environment in their initial stages, which allows their employees to efficiently coordinate their joint efforts and gain structural flexibility (Sanchez, 1995) to integrate incoming information (De Clercq, Sapienza, & Zhou, 2014), which seems particularly helpful for assimilating new employees being allocated into their functional area.

Furthermore, one article in my sample addressed the subsequent stage, in which entrepreneurs make decisions related to the development of the human resources in their ventures. Conceptually, these decisions correspond to the "bundle enriching" subprocess identified by

Sirmon and colleagues (2007), in which the skills of an existing resource bundle are extended. Through a field study anchored at the intersection between the entrepreneurial human resource development (Dabić, Montoro-Sánchez, Ortiz-De-Urbina-Criado, & Romero-Martínez, 2011) and the causation and effectuation (Sarasvathy, 2001) literatures, Hubner and Baum (2018) found that entrepreneurs base their human development approach on their employees' traits and tasks, as they select between a causation-based approach (i.e., defining the competences their employees need and granting the means for them to acquire them) and an effectuation-based approach (i.e., considering the personal interests of their employees and nurturing their competences to enact a firm strategy with the potential of leveraging them). Given the complexity behind human resource development in entrepreneurial ventures (Marlow, 2006), it appears striking that my literature sample does not contain further articles investigating entrepreneurs' bundle enriching decisions in the context of human resources.

Choice of strategy: A small share of studies in my sample is not concerned with the antecedents of entrepreneurs' resource bundling decisions, but rather, with exploring its outcomes. While scholars have previously acknowledged that resource bundling can generate decision ramifications for ventures over time (Clough et al., 2019), research has largely overlooked the distinct outcomes of entrepreneurs' resource bundling decisions. However, a small body of research in my sample literature reveals that resource bundling can substantially impact further venture strategic choices, such as decisions related to the competitive approach (Borch et al., 1999), selection of innovation or service strategy (Edelman, Brush, & Manolova, 2005), or franchising decisions (Gillis & Combs, 2009). So far, research in this field has yield mixed findings. On the one hand, Borch et al. (1999) analyzed 660 ventures and observed that different strategies were associated with different resource bundle combinations: (1) "technological firms" (i.e., those with predominance of technological resources among their bundles) selected a product innovation strategy to compete with other ventures, (2) "managerial

firms" with dominance of social capital in their resource bundles focused on pursuing a market strategy, and (3) "traditional firms" (i.e., those with predominance of financial resources among their bundles) rather favored a conservative strategy, characterized by risk avoidance. Noticeably, the authors identified a fourth group without predominance of any type of resources among their bundles and labeled them as "impoverished firms". These ventures tended to not have any clear strategy to compete with other ventures.

On the other hand, Edelman et al. (2005) found that high levels of human and organizational resources among a venture's resource bundle are associated with choosing a strategy focused on customer service. To generate more conclusive findings, further research exploring "resources as predecessors of strategy" (Borch et al., 1999, p. 50) in entrepreneurial ventures could benefit from unanimous conceptualizations of the resource types that integrate a bundle and provide parsimonious explanations of the different strategic directions a venture can undertake.

2.3.2.3 Resource deployment

A large proportion of my analyzed articles (e.g., Michaelis et al., 2020a; Nason et al., 2019; Obloj, Obloj, & Pratt, 2010) investigates resource deployment –that is, the processes followed by entrepreneurs to apply the resources under the control of their ventures to their first and best use (Wood & Williams, 2014). While research on the entrepreneurs' decisions in the resource deployment stage has overall grown in relevance (Ruiz-Jiménez, Ruiz-Arroyo, & del Mar Fuentes-Fuentes, 2020), this tendency seems to be more notorious among articles exploring firm internationalization decisions (8 out of 18 articles from my identified sample). In the following, I review extant literature's findings on prominent topics in the field, including: entrepreneurs' resource deployment decisions in general, as well as entrepreneurial action, firm internationalization, and entrepreneurs' choices associated with growth and survival.

Entrepreneurs' resource deployment decisions: Research exploring entrepreneurs' resource deployment decisions has mainly centered on entrepreneurs' individual characteristics, such as overconfidence (Hayward, Shepherd, & Griffin, 2006b), predominant cognitive logic (Ruiz-Jiménez et al., 2020), or personal competences (Siu & Bao, 2007) to explain entrepreneurs' decisions to deploy the resources available within their ventures' bundles. Among this literature stream, I identified two prominent theoretical perspectives. First, scholars have borrowed the resource-based notion of value, rareness, and inimitability (Barney, 2001) to characterize entrepreneurial cognition as a key intangible resource providing a (temporal) competitive advantage to their ventures and argued for the relevance of understanding its origins to gain a more comprehensive view of how entrepreneurs deploy available resources. For instance, Obloj et al. (2010) employed a field-based survey design and found that entrepreneurs' opportunity-seeking behavior and proactiveness shape their dominant logic and thus act as enablers of resource deployment decisions. Furthermore, Hayward et al. (2006b) conceptual work proposed that overconfidence impacts entrepreneurs' estimations and consistently leads them to overcommit resources when engaging in deployment decisions. However, there is scholarly debate whether entrepreneurial cognition can truly be considered as a resource in the first place. Mathews (2010) argued over the "infinite regress involved in such an argument" (p. 223), which implies that cognition is a (1) profit-generating resource by itself and (2) able to be fully exchanged among different entrepreneurs. This disagreement highlights the need to address conceptual issues in the field recently exposed by further scholars (e.g., Clough et al., 2019; Zahra, 2021).

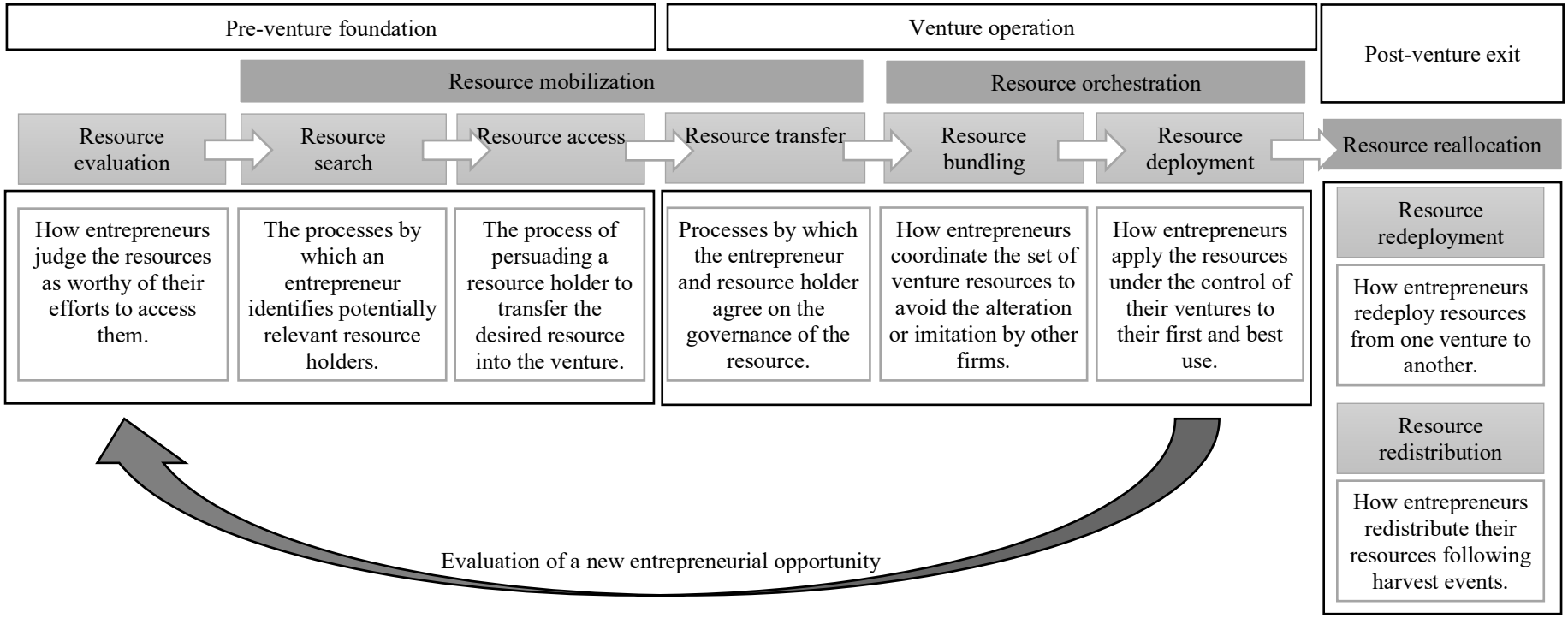
Second, resource dependency theory has also been employed as an alternative lens to investigate entrepreneurs' resource deployment choices. For instance, Siu and Bao (2007) identified four types of entrepreneurial networking competences shaping entrepreneurs' decisions during the resource deployment stage: (1) *customer orientation*, which drives

entrepreneurs to dominantly deploy internal venture resources, (2) *partnership competencies*, which leads to deploy external resources from collaborative partners, (3) *value orientation*, which makes entrepreneurs strive for a balanced resource deployment approach, and (4) *prospective networking competences*, which help entrepreneurs to persuade partners into forming strategic alliances with them and make them overly depend on their external resources. While insightful to understand how relying on other actors can shape entrepreneurs' resource deployment policies, literature could employ resource dependency theory to shed light on further aspects of these decisions, such as resource deployment dynamics under the dependence of a venture capitalist (Granz et al., 2020) or a corporate partner (Katila et al., 2022).

Entrepreneurial action: Research investigating the role of resource deployment for entrepreneurial action represents a small share of articles in my sample. However, the topic is highly significant for the understanding of the process that resource stages follow across the lifecycle of an entrepreneurial venture (see Figure 3), because entrepreneurs evaluate potential opportunities both, *when creating* their ventures (Wood & Williams, 2014) and *during* (Wood, Williams, & Grégoire, 2012) the venture operation stage. Indeed, established entrepreneurs must continuously explore new ideas (Dolmans, van Burg, Reymen, & Romme, 2014) when competing with other ventures in the market. This might occur, for instance, when an entrepreneur considers an opportunity to penetrate a secondary market niche (Haynie et al., 2009), or to apply a new technology in an existing market (Grégoire & Shepherd, 2012). This carries the significant connotation that the stages followed by resources across the lifecycle of a venture are both, sequential *and* iterative in their nature, as every time entrepreneurs evaluate a potential new opportunity, they must engage in a new process of evaluating (Choi & Shepherd, 2004b) the resources needed for it, as well as mobilizing them into their ventures and orchestrating them. For instance, Haynie et al. (2009) theorized and found empirical support that entrepreneurs frame their opportunity evaluations based on how the resources

resulting from that opportunity could be bundled and further deployed for their venture's utilization. In a similar vein, Wood and Williams (2014) found that entrepreneurs consider an opportunity as "personally attractive" (p. 576) for them when the resources required for it would be applied to their "first and best use" (p. 579). As such, based on the analysis of my sampled literature and this reasoning grounded in the "dynamic nature of decision-making" during entrepreneurial action (Townsend, Hunt, McMullen, & Sarasvathy, 2018, p. 670), I offer a modified version of the process map of entrepreneurial resource stages that acknowledges their iterative nature in Figure 4.

Figure 4. Modified process map of entrepreneurial resource stages across the lifecycle of an entrepreneurial venture



Firm internationalization: A third stream of research has identified three main categories of factors shaping entrepreneurs' resource deployment decisions during venture internationalization: (1) environmental characteristics, (2) network factors, and (3) internal-venture characteristics. First, prior research investigating how the venture's environment influences resource deployment has mainly focused on contextual factors, such as competitive intensity (Navarro-García, Schmidt, & Rey-Moreno, 2015) or time of the decision (Ripollés, Blesa, & Monferrer, 2012) to further understand entrepreneurs choices. For instance, Ripollés et al. (2012) found empirical evidence of a positive relation between early entry into the international market and likelihood of committing a high level of the venture's resources to enable internationalization among entrepreneurs in Spain. Since early entrants are not able to benefit from the learning effects generated by prior incumbents (Lévesque et al., 2009), it appears that they must thus compensate their lack of informational resources with additional financial resources to achieve internationalization. More recently, a second group of scholars has applied resource-based notions for investigating how network factors, such as membership belongingness (e.g., Inouye, Joshi, Hemmatian, & Robinson, 2019; Li, Wei, Cao, & Chen, 2021) or embeddedness (Turunen & Nummela, 2016) influence entrepreneurs' resource deployment during venture internationalization. Findings from this stream have so far been mixed: Li et al. (2021) recently found that network membership positively influences entrepreneurs' decisions to internationalize their ventures through high levels of resource deployment, but Inouye et al. (2019) concluded that network membership is associated with entrepreneurs' tendency to be more cautious about overcommitting resources during venture internationalization. Importantly, these seemingly contradictory findings can be explained when looking at the specific network membership. While being the member of a powerful network, such as *guanxi* (i.e., an informal Chinese institution characterized by political connections among prominent citizens (Li et al., 2021)) can help entrepreneurs to secure

additional resources to deploy during internationalization, being the member of a less favored group, such as a *diaspora* (i.e., a minoritarian group of entrepreneurs with immigrational background (Inouye et al., 2019)) raises entrepreneurs' awareness of the resource constraints present in their environment, thus driving a more frugal approach to resource deployment.

Moreover, literature has also explored the impact of venture-internal characteristics for entrepreneurs' resource deployment decisions during venture internationalization. Scholars in this field (e.g., Martin, Javalgi, & Ciravegna, 2018; Navarro-García et al., 2015; Terjesen & Elam, 2009b; Westhead, Wright, & Ucbasaran, 2001) have consistently highlighted that extensive resource endowments that the entrepreneur can deploy act as an enabler for venture internationalization. However, it would be interesting to shed further light on the latent effects of other venture characteristics, such as the collective cognition of entrepreneurial teams (Klotz, Hmieleski, Bradley, & Busenitz, 2013) and its potential role in the decision dynamics of resource deployment choices during venture internationalization. Notably, venture internationalization choices require entrepreneurs to engage in opportunity evaluation (S. Park, LiPuma, & Prange, 2014) before deploying existing resources, or searching for them –which might occur, for instance, through identifying a venture capitalist that could pave the way for venture internationalization. These decisions are thus a further example of the existing but theoretically neglected link between the resource deployment and resource evaluation stages.

Entrepreneurs' choices associated with venture growth and survival: Scholars have previously acknowledged the existing link between resource deployment decisions and venture growth (Clarysse, Bruneel, & Wright, 2011) as well as survival (Achidi Ndofor & Priem, 2009). Specifically, prior findings highlight that ventures rely on high levels of resource deployments to grow (Kiss, Fernhaber, & McDougall–Covin, 2018; Korunka, Kessler, Frank, & Lueger, 2010). Indeed, without deploying their resources, ventures would not be able to

remain competitive (George, 2005) in the uncertain environments in which they operate (Kirtley & O'Mahony, 2020). However, venture survival is attributed to a more frugal approach, characterized by preservation of the available resources (Stenholm & Renko, 2016; Stevenson, Kier, & Taylor, 2020). Entrepreneurs' resource deployment choices are thus crucial for several venture strategic decisions, such as scaling, where entrepreneurs' considerations on the alignment of their ventures' internal resources are particularly important (Van Lancker, Knockaert, Collewaert, & Breugst, 2023). Moreover, resource deployment choices are also relevant for entrepreneurs' decisions related to the engagement in interorganizational relations (Nason et al., 2019), commercialization of disruptive technologies (Sebastiao, 2011), or their value creation approach (De Silva & Wright, 2019). Extant research identifies characteristics of the resources and individual characteristics of the entrepreneur as the two main factors shaping these decisions. First, besides considering the availability of resources within their ventures' bundles (De Silva & Wright, 2019; Martin et al., 2018), entrepreneurs evaluate their resource controllability –that is, the proportion of resources within a venture's bundle that it under the full control of an entrepreneur, relative to the amount of external resources that can be borrowed (Nason et al., 2019). Second, entrepreneurs' characteristics, such as internal locus of control and need for achievement (Korunka et al., 2010) also seem to influence how entrepreneurs deploy resources while making choices associated with the growth and survival of their ventures. For instance, Michaelis et al. (2020a) found that entrepreneurs high in trait frugality strive for a resource deployment approach characterized by a maximum conservation of resources, even when having high levels of resource slack among the venture's bundles. This is an interesting notion that manifests that entrepreneurs' personality can trigger them to deploy resources following resource scarcity policies, even when operating on resource abundance conditions.

2.3.3 Post-venture exit

After exit decisions, entrepreneurs must select between two potential trajectories: (1) redeploying the venture's available resources to alternative entrepreneurial opportunities (Santamaria, 2022), or (2) redistributing them to ends that lie outside the entrepreneurial landscape (Mathias, Solomon, & Madison, 2017). Based on the analysis of my literature sample, I identified a small body of research (4 out of all 104 analyzed articles) investigating two final stages that entrepreneurial resources can take at the end of the lifecycle of an entrepreneurial venture. As such, I review research findings on the identified stages of resource redeployment and redistribution in the following.

2.3.3.1 Resource redeployment and redistribution

Research on the resource redeployment stage has focused on exploring two different decisions that drive entrepreneurs toward deploying the venture's resources to alternative opportunities. First, pivoting decisions notoriously imply the reallocation of venture resources to pursue strategic reorientations (Kirtley & O'Mahony, 2020). However, these reorientations can represent a "radical departure" (McDonald & Gao, 2019, p. 20) from the original venture to such a large extent, that they in fact, can be analogous to an entrepreneurial exit (Flechas Chaparro & de Vasconcelos Gomes, 2021). As such, pivoting decisions imply that entrepreneurs must find "a new first and best use" for their venture's resources –that is, they must redeploy them. Extant research in this field has mainly explored how contextual factors lead entrepreneurs to pivot their ventures and consistently concluded that environmental uncertainty creates a need for adaptation that results in strategic change. For instance, Kirtley and O'Mahony (2020) applied a longitudinal inductive study and found that uncertainty arising from new information expands or conflicts with entrepreneurs' prior beliefs and drives them to redeploy their venture's resources to pursue new trajectories. Second, prior literature has also

established that entrepreneurs who simultaneously found and operate multiple ventures (i.e., portfolio entrepreneurs) must redeploy the resources from one venture to another following an exit event. Interestingly, Santamaria (2022) found that the ability of portfolio entrepreneurs to "redeploy human and capital resources across businesses ex post" (p. 333) boosts the performance of their newly founded ventures by reducing their initial investment sunken costs.

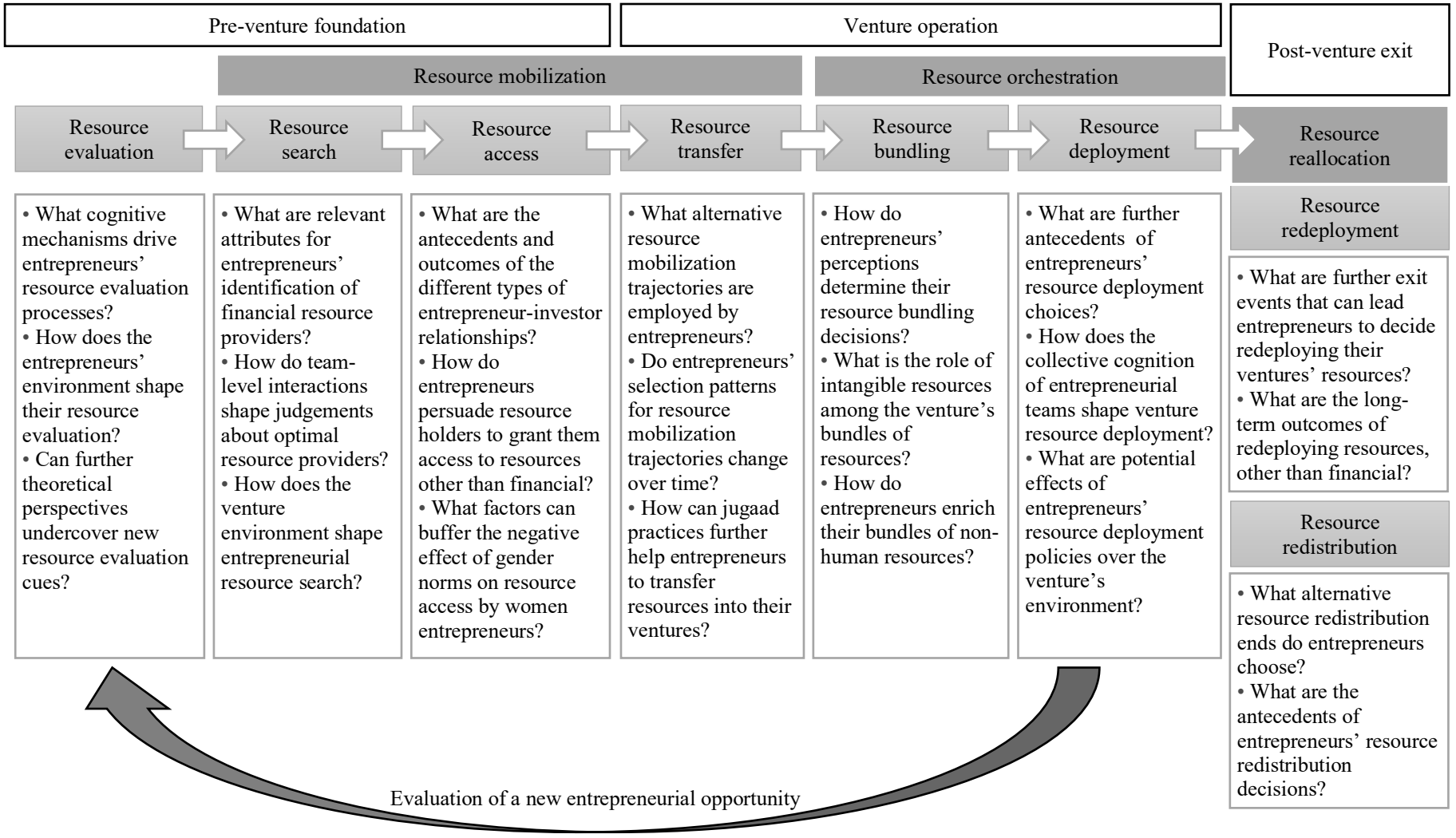
Furthermore, one empirical article in my sample addressed entrepreneurs' decisions to deploy resources to ends unrelated to their entrepreneurial endeavors –that is, to redistribute their ventures' resources. Specifically, Mathias et al. (2017) applied a stewardship theory lens (Davis, Schoorman, & Donaldson, 1997) to entrepreneurs' decisions to redistribute more than half of the wealth generated through a harvest event (i.e., entrepreneurial exit that results in personal wealth acquisition (DeTienne, McKelvie, & Chandler, 2015)). It appears that intrinsic motivation, personal identification with a cause, feelings of power, and stewardship norms trigger entrepreneurs' decisions to redistribute their venture's resources into charitable causes. It would therefore be interesting to empirically investigate alternative choices made by entrepreneurs to redistribute their ventures' resources following a harvest event.

2.4 Avenues for future research

Prior research at the intersection of entrepreneurial decision-making and resources has generated rich insights to increase our understanding of the choices entrepreneurs make during the different resource stages across the lifecycle of their ventures. However, scholars commonly fail to position their work within a clearly distinguishable resource stage (e.g., Cohen & Wirtz, 2021; De Massis et al., 2018; Nason et al., 2019) and label terms in "ambiguous or inconsistent ways" (Clough et al., 2019, p. 256). Overall, this has led researchers to "make questionable assumptions" about resources in the entrepreneurial context (Zahra, 2021, p. 13), as well as to operate under a lack of conceptual and empirical clarity that obscures valuable

explanations of entrepreneurs' decisions across the different resource stages. Based on my analysis, I offer research questions that could represent future avenues for scholarly work concerning each of the identified resource stages, as well as the iterative nature between them. Figure 5 provides a summarized overview of these questions.

Figure 5. Avenues for future research



2.4.1 Resource evaluation

As the small body of research investigating resource evaluation in the entrepreneurial context has gradually emerged, crucial aspects concerning the processes through which entrepreneurs evaluate a certain resource as desirable have remained unexplored, thus yielding promising avenues for future studies. In particular, this field appears to have difficulties unraveling the cognitive mechanisms that drive entrepreneurs' resource evaluations. Since this stage however, "might profoundly shape the efficiency" of the subsequent resource search (Felin et al., 2021, p. 4) and thus, of entrepreneurial resource mobilization overall, it seems promising to further investigate the specific processual logic that leads entrepreneurs to conclude a resource is worthy of their mobilization efforts. Considering initial findings indicating that cognitive biases might influence entrepreneurial resource evaluation (Kemmerer et al., 2012), future research should focus on determining what are the specific biases and heuristics that intervene in entrepreneurs' assessments of resources and how they modify the outcomes of this stage. Furthermore, prior research in entrepreneurial cognition acknowledges that the environment in which entrepreneurs operate largely determines the information inputs that constitute their mental representations (Grégoire, Corbett, & McMullen, 2011) as well as the decision logic they employ (R. K. Mitchell et al., 2007). Examining how the environmental conditions of the entrepreneur shape the cognitive mechanisms utilized to evaluate resources may therefore represent a further interesting avenue for future researchers. Moreover, extant research has predominantly relied on insights from the resource-based tradition to identify specific cues that might indicate the high value of a resource to entrepreneurs (e.g., Felin et al., 2021; Kemmerer et al., 2012). However, borrowing notions from other theoretical perspectives could shed light on novel attributes that entrepreneurs use to assess the value of resources.

2.4.2 Resource search

Literature on resource search has predominantly focused on exploring the outcomes of this stage but ignored its antecedents. Indeed, scholars have previously regretted that "literature largely overlooks how entrepreneurs search for resources in the first place" (Clough et al., 2019, p. 241). Since only one article in my sample provides insights on the specific characteristics that entrepreneurs value in potential resource providers (Drencheva et al., 2022), further investigating the attributes used to identify a resource holder as "relevant" may be a fruitful avenue for future studies. Moreover, given the scholarly agreement that team-level processes determine decision-making in entrepreneurial ventures (Klotz et al., 2013; West, 2007) it would be highly interesting to explore how interactions between members of the entrepreneurial team can shape their judgements on the relevance of a focal resource holder. Taking this argument further, scholars could also incorporate recent insights from research on entrepreneurial teams, highlighting "that entrepreneurial teams may undergo a life cycle themselves" (Patzelt, Preller, & Breugst, 2020, p. 1119) and analyze how team member interactions impact resource holder judgements by entrepreneurial teams over time. Such work could help to develop a dynamic perspective of team-level processes as a determinant of resource search decisions.

Besides focusing on internal venture factors, future studies could also address the influence of contextual factors on resource search processes. Specifically, since entrepreneurial decisions are context-specific (R. K. Mitchell et al., 2007), it could also be interesting to examine the role of environmental characteristics (e.g., environmental hostility or dynamism) in entrepreneurs' decision-making policies during the resource search stage.

2.4.3 Resource access

Most of the research on resource access rests on the assumption that entrepreneurs' decisions are solely driven by their desire to gain resources for their ventures from the identified resource holders. Indeed, this thread of research continuously emphasizes the "calculative, self-interested action" involved in entrepreneurs' access to resources (Clough et al., 2019, p. 258). However, I identified one study departing from this tradition and explicitly recognizing that entrepreneurs *exchange* –rather than just take– resources with their investors, as they develop different types of relationships with them, in which multiple types of resources are traded (Huang & Knight, 2017). Future research should thus explore the antecedents of the different types of entrepreneur-investor relationships as well as the long-term venture outcomes associated with them. Furthermore, research on resource access has neglected that entrepreneurs need to access alternative types of resources by disproportionately stressing the importance of financial resources (Clough et al., 2019). As entrepreneurs need various forms of resources for their ventures (Achidi Ndofor & Priem, 2009; Davidsson & Honig, 2003), it would be interesting to investigate the persuasion dynamics that intervene in entrepreneurs' access to resources other than financial. Moreover, while extant research has shown that women entrepreneurs face more disadvantageous conditions to access resources as compared to their male counterparts (Welsh et al., 2017), a study in my sample exposed the buffering role that moral support of the entrepreneurs' family can play in this process. As such, a promising avenue for future research lies in illuminating further factors that can facilitate women entrepreneurs' access to resources.

2.4.4 Resource transfer

A critical issue of research on entrepreneurial resource mobilization is that it predominantly focuses on formal resource transfer trajectories and forsakes the exploration of informal routes

(Clough et al., 2019). However, a small body of literature has started to acknowledge that engaging in bricolage (Baker & Nelson, 2016) or jugaad practices (Agarwal et al., 2020) can be crucial for entrepreneurs to successfully establish their ventures despite resource constraints. As such, identifying further informal resource transfer trajectories that enable entrepreneurs to pursue opportunities in resource constraint environments would be a fruitful avenue for future research. Furthermore, it has also been largely neglected that entrepreneurs' choices of resource transfer trajectories can change over time, which might occur, for instance, as they gain legitimacy. Despite first indications that legitimacy facilitates resource transfer (Wang et al., 2017), only one article in my sample specifically addresses that entrepreneurs' choices of resource mobilization trajectories are dynamic and change over time (Reypens et al., 2021). It would thus be interesting for future studies to explore new ways in which entrepreneurs' choices of resource transfer trajectories unfold over time. Additionally, scholarly work could also benefit from shedding further light on the processes through which jugaad enables resource transfer (Agarwal et al., 2020), as well as investigating the long term outcomes of these choices.

2.4.5 Resource bundling

Most of the studies in my sample assume that entrepreneurs' resource bundling decisions are determined by purely rational choices based on economic considerations of the resources available. Only one study has recently challenged this assumption by highlighting that bundling decisions are in fact, also shaped by entrepreneurs' individual characteristics (Cohen & Wirtz, 2021). Indeed, research on entrepreneurial cognition recognizes that decisions are strongly influenced by individual cognitive characteristics (R. K. Mitchell et al., 2007) and their resulting effect on decision-makers' perceptions (Grégoire et al., 2011). Following this rationale, future research should focus on understanding what are the impacts of individual cognition on entrepreneurs' perceptions during the resource bundling stage and how this

translates into different bundling outcomes. Furthermore, since both, tangible as well as intangible resources play an essential role in creating and sustaining the competitive advantage of an entrepreneurial venture (Zahra, 2021), it would be highly interesting to investigate how intangible resources are positioned within a venture's bundles and what is the criteria that entrepreneurs employ to make these decisions. Moreover, extant research on resource bundling has only started to investigate how entrepreneurs enrich their bundles of human resources (Hubner & Baum, 2018). Future studies might thus benefit from examining how bundle enriching subprocesses unfold when entrepreneurs aim to extend the capabilities of further types of venture resources.

2.4.6 Resource deployment

Research on resource deployment has mostly centered around investigating how individual characteristics of the entrepreneur shape decisions in this stage. While, as argued above, individual characteristics are certainly important determinants of entrepreneurial decision-making, there could be further factors influencing entrepreneurs' resource deployment policies. In particular, since prior research has associated entrepreneurs' resourceful behaviors with contextual factors, such as environmental constraints (Zahra & Garvis, 2000) or uncertainty (Fisher, Neubert, & Burnell, 2021), unraveling novel antecedents of entrepreneurs' resource deployment decisions seems a promising avenue for future research. Additionally, the collective cognition of entrepreneurial team members (Klotz et al., 2013) could also intervene in entrepreneurs' resource deployment decisions. As such, it would be highly interesting to study how interactions among entrepreneurial teams shape their deployment choices. Furthermore, when entrepreneurs decide to collaborate with surrounding institutions (Ahlstrom & Bruton, 2002) or customers (Agarwal et al., 2020), they can transform and "proactively shape their environments" (Ahlstrom & Bruton, 2002, p. 64). While none of the articles in my

sample explores whether entrepreneurs' resource deployment decisions shape the environment in which their ventures operate, this might represent a promising direction for futures studies.

2.4.7 Resource reallocation

Entrepreneurs' decisions to either redeploy their resources to further opportunities or redistribute them outside of the entrepreneurial landscape remain largely neglected by scholars, leaving us with a plethora of unanswered questions that future research could investigate. In particular, research on resource redeployment has identified both pivoting (Flechas Chaparro & de Vasconcelos Gomes, 2021; Kirtley & O'Mahony, 2020) and venture closure (Santamaria, 2022) as exit events that trigger redeployment decisions. However, there may be further exit events with the potential of driving entrepreneurs to find a new, best use for the available resources. For instance, the exit of a member of the entrepreneurial team (Ucbasaran, Lockett, Wright, & Westhead, 2003) might lead the remaining members wondering how to best redeploy the remaining financial and informational resources. It might thus be interesting for future research to shed light on further exit events that trigger resource redeployment decisions. Moreover, Santamaria (2022) recently took a first step in examining the long-term effects of the redeployment of financial resources in entrepreneurs' ventures. Nonetheless, the outcomes of the redeployment of other types of resources remain unknown. Therefore, the application of longitudinal methodologies might be fruitful for future research on resource redeployment.

Importantly, as the small body of research on resource redistribution starts to unfold, the field is full of promising trajectories. Specifically, a pioneer study in my sample discovered that entrepreneurs choose to reallocate their venture's resources to charitable causes following a harvest event (Mathias et al., 2017). However, whether entrepreneurs choose other ends that might create a profound societal impact for their venture's resources following harvest events is still ignored. Furthermore, the antecedents of resource redistribution decisions are also a

blind spot of research on this stage. As such, investigating what leads entrepreneurs to assign a substantial part of the wealth generated through harvest events to causes outside of their entrepreneurial endeavors may also be highly interesting for research on resource reallocation.

2.4.8 The iterative nature of entrepreneurial resource stages

Extant research has typically focused on exploring entrepreneurs' decisions within a particular resource stage in isolation. While some scholars have laid valuable contributions by explicitly acknowledging the sequential nature between stages that inspired the process map I propose in this review (e.g., Clough et al., 2019; Felin et al., 2021; Sirmon et al., 2007), the iterative nature between these stages remains ignored. However, entrepreneurial action entails iteratively evaluating opportunities (Choi & Shepherd, 2004b) to determine if they are worth exploiting. The evaluation of a new entrepreneurial opportunity thus triggers a new iteration in the process that resource stages follow across the lifecycle of an entrepreneurial venture, creating "loops" when entrepreneurs reassess what the needed resources for the new opportunities might be, and how to best mobilize and orchestrate them. This leaves plenty of fruitful avenues for research exploring the iterative nature of entrepreneurial resource stages. First, I suggest future research could employ the process map I propose in this review to answer prior calls to investigate how entrepreneurs' cognition shift in the context of a process-based perspective of entrepreneurial resources (Clough et al., 2019). In particular, since learning effects impact decision-making of experienced entrepreneurs (Grégoire et al., 2011), it would be highly interesting to examine whether entrepreneurs' cognitive mechanisms during secondary resource evaluations differ from the mechanisms they employed during the first time they evaluated the resources needed to start their ventures. Taking this reasoning further, future studies could also determine whether learning effects influence subsequent resource orchestration decisions and untangle how experience may shape the judgements entrepreneurs employ to construct value-adding

bundles of resources (Mathews, 2010) or the choices relative to selecting a first and best use for them (Wood & Williams, 2014) during subsequent iterations. Finally, it would also be interesting to shed light on the temporality of the iterative nature of entrepreneurial resource stages. Specifically, further research could explore whether the gradual legitimacy gains arising from vanishing liabilities of newness (Wang et al., 2017) benefit entrepreneurs' efforts to identify relevant resource holders over time and how this might impact decisions taken during subsequent resource mobilization endeavors.

2.5 Conclusions

Entrepreneurs engage in multiple decisions related to resources before the foundation of their ventures, during their operation and even after exit events. These decisions have been studied by scholars over the last five decades and their efforts have yield valuable insights to research at the intersection of entrepreneurial decision making and resources. As such, this literature review offers an organizing framework for extant research that considers the different stages that resources undergo across the lifecycle of an entrepreneurial venture. Overall, I hope that this work supports future scholars in their endeavors to investigate the sequential and iterative nature of these resource stages, while generating conclusive insights that extend and complement existing theoretical perspectives. Furthermore, this review also outlines promising avenues for future researchers exploring how entrepreneurs make decisions associated with resources within the context of their ventures.

3 To pivot or not to pivot? The role of optimism and resources in entrepreneurs' assessments of a potential pivot

3.1 Introduction

Entrepreneurs often turn to pivoting—a strategic change to adapt a new venture to its current environmental conditions (McDonald & Gao, 2019)—as a means to leverage their ventures' potential and enhance the chances of venture survival (Kirtley & O'Mahony, 2020) and success (Wood, Palich, & Browder, 2018). Because entrepreneurial firms commonly face liabilities of newness (Short, McKelvie, Ketchen, & Chandler, 2009; Stinchcombe, 1965a) that lead to resource constraints (Carr, Haggard, Hmieleski, & Zahra, 2010), prior research has found that pivots need to be strongly "supported by resource commitments" (Kirtley & O'Mahony, 2020, p. 3). In particular, extant work has emphasized the critical function of resources in pivoting assessments, as pivots are impacted by the need to invest in developing a better product-market fit (McDonald & Gao, 2019), additional knowledge inputs provided by venture stakeholders (Hampel et al., 2020), and received encouragement to experiment with different approaches (Camuffo, Cordova, Gambardella, & Spina, 2020). Indeed, each of these factors require the provision of resources to entrepreneurs.

However, even though prior studies have highlighted the role of resources in entrepreneurs' pivoting assessments, an implicit assumption of these studies is that once entrepreneurs have attracted the required resources, they are all equally able to benefit from them when pivoting. This assumption is potentially problematic because prior research in entrepreneurial decision making (J. R. Mitchell et al., 2005; Shepherd et al., 2015) has stressed the importance of addressing entrepreneurs' heterogeneity in terms of their personalities to understand how they make decisions. In particular, the model of behavioral self-regulation (Carver & Scheier, 1990; Scheier & Carver, 1992) suggests that individuals' tendency to hold positive expectations for

their own futures—that is, their optimism (Scheier & Carver, 1985)—can substantially modify their decision-making policies. Indeed, optimism is particularly impactful for individual decision making in situations marked by high uncertainty about the future (Carver, Scheier, & Segerstrom, 2010), as is typical for entrepreneurs considering a pivot (Kirtley & O'Mahony, 2020). As such, we propose entrepreneurs' optimism as an important contingency that shapes the degree to which they benefit from resources when making strategic decisions, such as venture pivoting. Therefore, this paper poses the following research question: to what extent do entrepreneurs' optimism levels shape their perceptions of the value of available resources when they are assessing a potential pivot?

To address our research question, we draw on arguments from the resource-based perspective and the model of behavioral self-regulation to develop a model of entrepreneurs' pivoting assessments based on the different types of resources available to them. We test our model using conjoint analysis and data from 2,180 assessments nested within 109 entrepreneurs. Based on our theorizing and empirical findings, our study offers novel insights for academic conversations on pivoting and entrepreneurial optimism as well as for the literature on entrepreneurial decision making.

First, we contribute to the growing work on pivoting (Hampel et al., 2020; Kirtley & O'Mahony, 2020) emphasizing its resource-intensive nature (Kirtley & O'Mahony, 2020; McDonald & Gao, 2019). While we find that available resources are indeed important for entrepreneurs' assessments of potential pivoting situations, we further extend this notion by finding that resources' influence is contingent on entrepreneurs' personalities. Second, we contribute to the literature on entrepreneurial optimism. While existing studies have provided inconclusive evidence as to whether a positive outlook helps (Adomako, Danso, Uddin, & Damoah, 2016; Trevelyan, 2008) or hinders (Amore, Garofalo, & Martin-Sanchez, 2021; Hmieleski & Baron, 2009) entrepreneurs as they engage in key aspects of their ventures, we

identify that optimism plays a dual role in entrepreneurs' assessments of resources for pivoting as it shapes how valuable entrepreneurs perceive different types of resources for a potential pivot. Finally, our study contributes to a more holistic picture of the role of personality in entrepreneurial decision making (Shepherd et al., 2015). Although prior studies have suggested that personality traits shape how entrepreneurs view resources (de Meza & Southey, 1996; Ucbasaran, Westhead, Wright, & Flores, 2010), we know little how such trait-based evaluations impact entrepreneurs' specific decisions. By theorizing and finding that entrepreneurs' optimism substantially impacts the value they attach to the different available resources while engaging in pivoting assessments, we demonstrate the need to consider cross-level interactions to explain when entrepreneurs capitalize on specific resource bundles available to them and when they are unlikely to do so.

3.2 Theory development

3.2.1 Entrepreneurial pivoting

In the highly uncertain context in which new ventures operate (McKelvie, Haynie, & Gustavsson, 2011; McMullen & Shepherd, 2006), entrepreneurs need to evaluate the multiple potential strategies they can pursue and try to select the optimal one at the outset. However, as time unfolds, entrepreneurs might update their evaluations of potential alternative strategies (Gans, Stern, & Wu, 2019) and conclude that pursuing a different or new strategy is the most promising path for their ventures (McDonald & Gao, 2019). In other words, since "new venture creation is complex and entrepreneurs rarely get it 'right' the first time" (Hampel et al., 2020, p. 3), they might turn to pivoting.

Pivoting allows entrepreneurs to adapt to changing conditions in a way they believe will improve their ventures' prospects (Kirtley & O'Mahony, 2020; McDonald & Gao, 2019). In particular, entrepreneurs are more likely to change the direction of their ventures when they

possess the financial resources required to engage in additional entrepreneurial activities (Berends et al., 2021). Further, pivoting is more likely when entrepreneurs have information about the particular market their ventures aim to address after pivoting (Hampel et al., 2020). Some entrepreneurs are also encouraged by stakeholders to adopt different approaches when developing their ventures, which can also trigger pivoting (Camuffo et al., 2020). Finally, on the other side, when entrepreneurs highly identify with their ventures, their likelihood of pivoting decreases (Grimes, 2018). As these studies indicate, entrepreneurs' decisions to pivot are complex and based on multiple factors related to their ventures, the environment, their products, and their personal preferences. Despite consistently recognizing the importance of resources for pivots, the literature on entrepreneurial pivoting (Hampel et al., 2020; Kirtley & O'Mahony, 2020; McDonald & Gao, 2019) remains largely silent regarding the extent to which resources can shape entrepreneurs' assessments of a potential pivot. Therefore, in what follows, we develop a model of entrepreneurs' pivoting assessments based on their considerations of the availability of different resource types. The purpose of our model is not to fully explain entrepreneurs' complex pivoting decisions but to provide initial insights into how they value different resource types for pivoting based on their personalities (i.e., optimism).

3.2.2 Resources and entrepreneurial pivoting assessments

Notions from the resource-based perspective can be applied to understand how resources shape entrepreneurial and strategic decision making. Particularly relevant in this context is the prescription that decision makers' evaluation schemas are based on their future-oriented outcome representations (Shane & Venkataramanan, 2000), which are in turn fundamentally "defined by considerations of resources" (Haynie et al., 2009, p. 341). Indeed, entrepreneurs need resources to launch their ventures (Smith & Autio, 2022), set them on a path that allows them to grow (Clarysse et al., 2011) and secure their survival (Achidi Ndofor & Priem, 2011).

As such, entrepreneurs' expectations about the resources available to pursue different courses of action can determine the choice they will ultimately make.

Prior work at the intersection of resources and entrepreneurial decision making has regarded resources as the cornerstone of strategic adaptation (Eisenhardt & Martin, 2000; Haynie et al., 2009), which implies that entrepreneurs' expectations about available resources may be particularly relevant in their pivoting assessments. Following this rationale, the emerging body of work on entrepreneurial pivoting has underlined the central importance of resources (Hampel et al., 2020; Kirtley & O'Mahony, 2020; McDonald & Gao, 2019) for the success of pivots in new ventures. For instance, Kirtley and O'Mahony (2020) argue that because of the resource-scarce conditions in which new ventures operate, stakeholders' commitment to provide resources is decisive for the entrepreneurs' pivoting assessments. Similarly, Flechas Chaparro and de Vasconcelos Gomes (2021) consider access to resources an important antecedent of entrepreneurial pivoting.

While there are many different types of resources as well as diverse ways to categorize them, entrepreneurship research has consistently highlighted the relevance of financial resources (Achidi Ndofor & Priem, 2011; Wood & Williams, 2014), knowledge and information (Autio, Sapienza, & Almeida, 2000; Haynie et al., 2009), and the support embedded in entrepreneurs' social relationships (Adler & Kwon, 2002; Davidsson & Honig, 2003) for their strategic decision making. For instance, Achidi Ndofor and Priem (2011) propose that high levels of financial resources encourage an experimental approach to decision making by increasing the number of alternative strategies that entrepreneurs can potentially enact. Likewise, Haynie et al. (2009) consider information to be a building block of the cognitive representations entrepreneurs use to evaluate and select different potential opportunities. Furthermore, Davidsson and Honig (2003) theorize and empirically demonstrate that the encouragement

provided by individuals close to entrepreneurs, such as family members and friends, is positively related to their exploration and exploitation decisions, while Achidi Ndofor and Priem (2011) show that the goodwill embedded in social relationships is "a particularly important conduit" (p. 795) to support decision making in the context of immigrant entrepreneurs. Given the relevance of these three types of resources for entrepreneurial decision making, we expect the availability of financial, informational, and emotional resources to play a crucial role in the context of entrepreneurial pivots.

First, entrepreneurs need *financial resources* to engage in a pivot (McDonald & Gao, 2019). Financial resources can be spent in a flexible way and "enable entrepreneurs to fund product development, deploy marketing campaigns and recruit and hire talented employees" (Huang & Knight, 2017, p. 80). Thus, financial resources are critical for the development of new ventures since their fungible nature allows entrepreneurs to overcome various obstacles (Khaire, 2010). Given the challenges associated with entrepreneurial pivots (Kirtley & O'Mahony, 2020), such as product adaptation and development (McDonald & Gao, 2019), new market penetration (Hampel et al., 2020), and employee recruitment and training (Hampel et al., 2020; Kirtley & O'Mahony, 2020), financial resources are critical for entrepreneurs who engage in a pivot. Thus, we expect entrepreneurs who have extensive financial resources available to them are more likely to decide to pivot compared to entrepreneurs who have only limited financial resources available to them.

Second, *informational resources* related to market segments, competitors, and technology that enable firms to create value (Madhavaram & Hunt, 2008) can also support entrepreneurs' assessments of a potential pivot. In particular, informational resources help entrepreneurs navigate through conditions of novelty (Soh, 2003). Since pivots necessitate new routines and new activities (McMullen, 2017), informational resources can be critical in enabling entrepreneurs to adapt current routines and introduce new activities in their ventures (Jones,

2004). Moreover, informational resources enable entrepreneurs to learn about the nature of opportunities and foster innovation development (Adler & Kwon, 2002). Thus, in a pivot, entrepreneurs can benefit from a larger pool of information to develop different solutions and select the most appropriate one (Yang et al., 2010). For example, if a pivot involves creating a new version of a product, informational resources provided by experts can facilitate the required technology-integration processes to revise the product (Shepherd, Osofero, & Wincent, 2022). Thus, we expect that entrepreneurs who have extensive informational resources available to them are more likely to decide to pivot compared to those with limited informational resources available to them.

Finally, *emotional resources* refer to the moral support, trust, and comfort provided to an individual (Adler & Kwon, 2002). Emotional resources are especially valuable in helping entrepreneurs withstand overwhelming situations because others' empathy and support help counteract stress (Haslam, O'Brien, Jetten, Vormedal, & Penna, 2005). Accordingly, these emotional resources enable entrepreneurs to successfully cope in contexts characterized by high novelty (Pollack, Vanepps, & Hayes, 2012), which can generate feelings of stress (Morris, Kuratko, Schindehutte, & Spivack, 2012) and anxiety (Wiklund, Yu, Tucker, & Marino, 2017). Given the novelty (Grimes, Williams, & Zhao, 2019) and uncertainty (Kirtley & O'Mahony, 2020) of entrepreneurial pivots, emotional resources are likely to play an important role in entrepreneurs' pivoting assessments. Specifically, entrepreneurs are likely to experience doubt about whether or not they should pivot, resulting in hesitation in their assessments of a potential pivot (Kirtley & O'Mahony, 2020). The moral support and encouragement provided by those close to them can be crucial for entrepreneurs to overcome such doubt (De Carolis, Litzky, & Eddleston, 2009). Thus, we contend that entrepreneurs with extensive emotional resources available to them are more likely to decide to pivot compared to those with limited emotional resources available to them.

3.2.3 Optimism and entrepreneurs' pivoting assessments

While resources play a central role in entrepreneurs' pivoting assessments, research on entrepreneurial decision making has emphasized that heterogeneity in entrepreneurs' personalities is likely to shape their decision-making processes (J. R. Mitchell et al., 2005; Shepherd et al., 2015). In the context of entrepreneurial pivots, where entrepreneurs make decisions that will substantially shape the future of their ventures (Berends et al., 2021; McDonald & Gao, 2019), their judgements depend on their expectations about the outcomes of these potential new trajectories (Berends et al., 2021). As such, we propose that optimism—that is, the tendency to have positive expectations for one's own future (Scheier & Carver, 1985)—represents an important contingency for entrepreneurs' pivoting assessments.

We build on Carver and Scheier's (1990) model of behavioral self-regulation. This view is grounded in their 1985 conceptualization of optimism (Monzani et al., 2015) and suggests that positive expectations about the future can substantially shape an individual's decision making. In particular, we adhere to the notion that individuals' beliefs about experiencing good outcomes in the future give rise to positive attitudes and feelings (Scheier & Carver, 1992), which are in turn major determinants of how they perform assessments in specific situations (Carver & Scheier, 1990). For example, optimism has been shown to shape individuals' decisions related to career exploration (Rottinghaus, Day, & Borgen, 2005), habit development (Steptoe, Wright, Kunz-Ebrecht, & Iliffe, 2006), and working policies (Puri & Robinson, 2007). As such, we predict that entrepreneurs' expectations for a positive future impact their evaluations of available resources in pivoting assessments. Specifically, we argue that entrepreneurs' optimism levels shape the extent to which they perceive financial, informational, and emotional resources as valuable for pivoting.

First, optimism likely influences entrepreneurs' perceptions of the value of financial resources when assessing a potential pivot. Highly optimistic entrepreneurs have a tendency to hold

positive expectations because they are inclined to believe in their ability to create positive outcomes for their ventures (Carver et al., 2010). Importantly, favorable expectations are accompanied by positive attitudes (Scheier & Carver, 1992), which likely increase perceptions of control (Bruce & Thornton, 2004; Forest, Clark, Mills, & Isen, 1979). In other words, the "rose-colored glasses" (Hmieleski & Baron, 2009, p. 477) of entrepreneurs who are high in optimism might make them more likely to believe they will be able to successfully finance product-development activities and marketing campaigns as well as hire highly talented employees needed for pivoting. The various positive expectations surrounding a pivot might lead entrepreneurs to develop positive attitudes and feelings and therefore consider all tasks connected to a pivot to be under their control. As such, more optimistic entrepreneurs might perceive a pivot as less challenging overall and may thus be less inclined to connect a pivot with high costs. Therefore, we propose that they are less likely to attach high value to the availability of financial resources in their assessments of potential pivots.

Moreover, optimism is likely to trigger broader assessments from individuals that focus less on specific and detailed features of a situation (Basso, Schefft, Ris, & Dember, 1986). Because the versatile nature of financial resources allows them to be allocated to several different end uses (Huang & Knight, 2017), entrepreneurs higher in optimism may be less likely to have specific plans for allocating available financial resources. With less specific plans for their allocation, these resources might seem to be less relevant for a potential pivot, which might weaken the positive relationship between available financial resources and entrepreneurs' likelihood to pivot. In contrast, less optimistic entrepreneurs likely experience doubt (Dawson, 2017) and might be more motivated to engage in detailed considerations regarding the allocation of available financial resources for a potential pivot, hence viewing these resources as more valuable for their assessments. Thus, we propose the following:

> ***Hypothesis 1:*** *In entrepreneurs' assessments of pivoting, the positive relationship between financial resources and the likelihood to pivot is weaker when optimism is higher than when it is lower.*

Second, entrepreneurs' optimism levels likely shape the extent to which they perceive available informational resources as valuable for a potential pivot. Specifically, as argued above, entrepreneurs who are high in optimism tend to believe their ventures will have positive future outcomes. However, optimism might also make detailed assessments less likely (Basso et al., 1986). In particular, research in cognition and decision making has highlighted that optimists engage in more superficial information processing (Scheibehenne & von Helversen, 2015). This finding suggests that more optimistic entrepreneurs might be less likely to analyze available information carefully even if the information could help them assess how they could adapt routines and introduce new activities for a potential pivot (McMullen, 2017). Because they are less likely to scrutinize information that could help them engage in more effective evaluations (Amore et al., 2021; Hmieleski & Baron, 2009), entrepreneurs higher in optimism might be more inclined to attach low value to available information, which might weaken the positive relationship between informational resources and the likelihood to pivot. In contrast, less optimistic entrepreneurs likely feel less certain about their ventures' positive future outcomes and might therefore be more concerned about making decisions that will ensure a successful pivot. As such, these entrepreneurs might be more likely to prioritize engaging in detailed reasoning and analysis of any available information that could help them to do so, thus leading them to attach higher value to this information. Thus, we propose the following:

> ***Hypothesis 2:*** *In entrepreneurs' assessments of pivoting, the positive relationship between informational resources and the likelihood to pivot is weaker when optimism is higher than when it is lower.*

Finally, optimism likely influences entrepreneurs' perceptions of the value of emotional resources when assessing a potential pivot. However, we expect this influence to be different from optimism's effect on entrepreneurs' valuations of financial and informational resources. Specifically, because optimism generates positive attitudes and feelings, such as hope, enthusiasm (Stotland, 1969), and confidence (Trevelyan, 2008), entrepreneurs with higher levels of optimism are more likely to anticipate achieving positive outcomes through pivoting. Importantly, receiving emotional resources prompts entrepreneurs to envision a positive future (Segerstrom, 2007). As such, highly optimistic entrepreneurs might be particularly receptive when exposed to encouraging words and actions from those close to them as this positive content likely resonates with the entrepreneurs' own positive beliefs about the outcomes of a potential pivot. Indeed, individuals have been found to react positively to messages that are consistent with their own beliefs (Nickerson, 1998; Zhang & Cueto, 2016). These findings suggest that entrepreneurs higher in optimism are likely to consider the moral support and encouragement provided to them as confirmation of their positive beliefs and thus view it as important for pivoting. In turn, this importance is likely to strengthen the positive relationship between available emotional resources and entrepreneurs' likelihood to pivot.

In contrast, when entrepreneurs have low levels of optimism, they struggle to envision positive outcomes for their ventures (Trevelyan, 2008). These entrepreneurs might thus be resistant to assimilating encouraging words and actions provided by others during their assessments of a potential pivot as this positive and uplifting content contradicts their own hesitations. Therefore, we contend that less optimistic entrepreneurs are less likely to view the emotional resources available to them as helpful, which might reduce the positive influence of emotional resources on their pivoting assessments. Thus, we propose the following:

> ***Hypothesis 3:*** *In entrepreneurs' assessments of pivoting, the positive relationship between emotional resources and likelihood to pivot is stronger when optimism is higher than when it is lower.*

3.3 Research Methods

3.3.1 Sample

We recruited venture founders active in a German metropolitan region by drawing on data from the German Federal Association of Innovation, Technology, and Start-up Centers (ADT, 2020) and regional associations. Business incubators provide adequate conditions to collect a sample because start-ups located in business incubators are typically in the early stages of their development (Assenova, 2020), a period when many entrepreneurs assess whether a strategic reorientation is needed to consolidate their young ventures (Vogel, 2018). Initially, we compiled a list of 781 ventures and their founders. We then used three selection criteria to further specify our sample. First, we included only young firms with a maximum venture age of six years (Amason, Shrader, & Tompson, 2006). Second, we excluded subsidiaries of large firms because the large firms might provide additional resources for a pivot. Third, we excluded firms that were no longer run by the initial founder(s) because the managers of such firms are typically not as attached to the firms' original purposes and missions (Grimes, 2018), which may influence their pivoting assessments. After applying these criteria, the primary list included 535 ventures and their lead founders.

When contacting the ventures via phone to explain the purpose of our study and ask for participation, we learned that 65 of them either did not exist anymore or could no longer be contacted via the telephone numbers provided on their websites. Furthermore, we used the introductory phone call to verify the criteria listed above and excluded another 126 ventures that did not match our sampling criteria. Out of the 344 ventures that matched our criteria, some entrepreneurs declined participation in our study—mostly due to time constraints—but 159 lead entrepreneurs did agree to participate. Ultimately, 109 entrepreneurs completed our online research instrument containing the experiment and post-experiment questionnaire,

which corresponds to a response rate of 31.7% in terms of ventures contacted and 68.6% in terms of entrepreneurs who agreed to take part in the study.

The entrepreneurs in our final sample were 35.74 years old on average (SD = 7.70), and 85.19% were male. Regarding their education, 90.36% held a university degree, most of whom had a background in business or economics (41.28%) followed by engineering (28.44%) and mathematics or natural sciences (16.51%), and 13.76% had an educational background in other fields. On average, the participants had 6.55 years of industry experience (SD = 6.09), and 44.45% had started at least one venture prior to the current one. Their current ventures were 2.84 years old on average (SD = 2.06) and had an average of 9.71 employees (SD = 16.25). While 55.68% of the ventures were active in high-technology industries (e.g., computer hardware and software), 44.32% were active in low-technology industries (e.g., trade). Finally, 48.37% of the entrepreneurs in our sample had undergone at least one pivot before, and 51.63% had no prior pivoting experience.

3.3.2 Methodology and research instrument

Consistent with recent research in entrepreneurial decision making (Fu et al., 2022; Garrett, Mattingly, Hornsby, & Aghaey, 2021; Kier et al., 2021; Kleinert, Bafera, Urbig, & Volkmann, 2021), we used metric conjoint analysis (Louviere, 1988; Shepherd & Zacharakis, 2018) to test our model. This methodology calls for individuals to perform a series of assessments based on profiles that are built upon attributes relevant to these decisions (Shepherd et al., 2010). A metric conjoint experiment is well suited to represent entrepreneurs' assessments of hypothetical pivots because it enables participants' actual decisions to be captured and discomposed into their underlying structures (Shepherd et al., 2003). In other words, such an experiment can reveal how the underlying factors describing a potential pivot (in our case, the availability of different types of resources) influence assessments of the pivot.

In a conjoint experiment, the participants' assessments represent the dependent variable, whereas the attributes describing the decision scenarios comprise the independent variables. In our research instrument (provided in Appendix 2), each hypothetical scenario described a potential pivot based on the resources available to the entrepreneur. To provide pivot scenarios that realistically encompass the complexity of such assessments, we also included key characteristics of a potential pivot. First, we included divergence with respect to the current venture's capabilities as greater divergence may make it more difficult for entrepreneurs to pivot. Second, we included divergence with respect to the venture's mission as greater divergence from the venture's original mission may prevent entrepreneurs from pivoting (Grimes, 2018). Therefore, both divergence from venture capabilities and mission are important decision cues for our experiment, representing the varying conditions under which entrepreneurs need to assess potential pivots in real life (Snihur & Clarysse, 2022). This approach is consistent with other conjoint studies that have created more complex scenarios to better model entrepreneurs' decision-making contexts (Douglas & Shepherd, 2002; Shepherd & Patzelt, 2015; Shepherd, Patzelt, & Baron, 2013). Thus, in our study, the entrepreneurs needed to consider the varying degrees of the different types of resources available to them (e.g., plenty of informational resources may be available to build on, but financial resources may be lacking to make the pivot work) as well as the capability and mission divergence (e.g., the capabilities present in the current venture might be required for the adapted venture, but the pivot may imply that the venture will have to operate under a different mission).

Therefore, in total, the scenarios in our experiment are characterized by five attributes, each of which is described by two levels, resulting in 32 (2^5) possible combinations. To decrease the participants' burden, we relied on the fractional factorial design by Hahn and Shapiro (1966) to reduce the number of profiles presented to each participant. Specifically, we included 16 full profiles to each participant, which allowed us to test all of the main effects and significant

interactions hypothesized in our study. Furthermore, to assess the test-retest reliability of our participants' responses, we replicated four randomly chosen profiles from the original set. Thus, each respondent completed a total of 21 profiles, including one practice profile to familiarize them with the format of the experimental task, 16 conjoint profiles, and four replicated profiles. Consistent with the recommendations by Aiman-Smith and colleagues (2002), we excluded the practice profiles from our analysis and used the replicated profiles only to assess test-retest reliability. Similar to other studies in entrepreneurship (Choi & Shepherd, 2004a; Shepherd & Patzelt, 2015), the mean correlation between the original and replicated profiles is 0.83, which indicates that our respondents' assessments were consistent across the presented profiles.

Given the possible emergence of order effects in a list of stimuli (Chrzan, 1994), we tested for potential order effects in our conjoint experiment. We created four different versions of the experiment by changing both the order of the attributes within the profiles and the order of the profiles and randomly assigned each of the respondents to one of the versions. An analysis of variance revealed no significant differences (all $p > 0.10$) between the four versions presented to the participants, therefore indicating that the order of the attributes in the presented profiles likely did not influence our participants' answers.

3.3.3 Assessment situation and research variables

Upon accessing our online research instrument, the entrepreneurs were instructed to imagine that all of the hypothetical situations described in the pivot assessments related to them as a founder within the current environment of their own venture. Consistent with Kirtley and O'Mahony (2020), we asked the participants to consider a pivot as a substantial change in the way a venture operates, which can include the activities the venture performs, the resources it consumes for this purpose, and the value it creates for customers. Furthermore, we told the

entrepreneurs to consider each of the scenarios individually and to think of all the other attributes of a potential pivot as constant across the presented assessments. After receiving the instructions, participants could proceed with the remaining sections of our online research instrument (i.e., the experimental task and the post-experiment questionnaire).

Dependent variable: Our dependent variable is the entrepreneur's assessment of the likelihood to engage in a pivot. The entrepreneurs were asked to assess their likelihood of pivoting their business models based on the presented hypothetical scenarios on a seven-point Likert scale with the anchors "definitely not pivot" (1) and "definitely pivot" (7).

Independent variables: The entrepreneurs were confronted with five attributes in the conjoint experiment, three of them representing the types of resources available to them at the time of the decision and two of them describing the divergence with respect to the current venture's capabilities and mission in case of a pivot. Consistent with previous metric conjoint studies (Choi & Shepherd, 2016; Domurath & Patzelt, 2016; Shepherd & Patzelt, 2015), we used two levels to describe each attribute in the experiment. First, *availability of financial resources* refers to the financial resources the entrepreneurs would receive to engage in the pivot and was described as either extensive ("You can expect to get substantial financial support on behalf of investors") or limited ("You cannot expect to get financial support for the pivot"). Second, *availability of informational resources* denotes the advice the entrepreneurs would receive for the adapted venture in case of opting for the pivot and was described as either extensive ("You can expect your external venture stakeholders to provide substantial advice on business- or technology-related issues") or limited ("You cannot expect your external venture stakeholders to provide advice on business- or technology-related issues"). Third, *availability of emotional resources* refers to the encouragement for the pivot the entrepreneurs would receive and was described as either extensive ("You can expect people in your surroundings to provide

substantial encouragement for the adaptation") or limited ("You cannot expect people in your network to provide encouragement for the adaptation"). Moreover, we also included two variables to represent important characteristics of the pivot and, thus, provided a richer and more realistic decision-making context for the pivoting assessments (Snihur & Clarysse, 2022). Specifically, we described the *divergence with respect to the current venture's capabilities* as either high ("The capabilities required in the adapted venture will substantially diverge from those already available in your current venture") or low ("The capabilities required in the adapted venture will be very similar to those already available in your current venture"). Further, we described the *divergence with respect to the current venture's mission* as either high ("Your venture will be required to follow a new mission after the pivot") or low ("Your venture will keep operating under its original mission after the pivot").

Besides uncovering the influence of the pivot characteristics in the entrepreneurs' assessment policies, our research model also investigated how their assessments varied according to the entrepreneurs' optimism. Optimism was measured using Scheier, Carver, and Bridges' (1994) six-item Life Orientation Test-Revised (LOT-R), which has been employed by numerous scholars to measure optimism, including in the entrepreneurial context (Adomako et al., 2016; Amore et al., 2021; Hmieleski & Baron, 2009). An example item is "Overall, I expect more good things to happen to me than bad." Items were captured on seven-point Likert scales anchored by the end points "strongly disagree" (1) and "strongly agree" (7). The internal reliability for the scale is 0.78, indicating sufficient reliability (Bailey, Bergeron, Gravel, & Daoust, 2007).

Control variables: We used data from the post-experiment questionnaire to control for differences among our participants' characteristics that are likely to influence their pivoting assessments. First, we controlled for the entrepreneurs' previous pivoting experience

(measured as a dichotomous variable; 1 = pivoted before, 0 = never pivoted) because it might make them more inclined to adapt their business models again (McDonald & Gao, 2019). Second, we controlled for entrepreneurial experience (measured as the number of founded ventures) because entrepreneurs with more experience are more likely to preserve their prior beliefs and thus display lower levels of adaptive adjustment in their assessment policies (Parker, 2006). Third, because entrepreneurs' perceptions of threat can impact how they make decisions (Shepherd et al., 2015), we controlled for the participants' perceptions of venture threat (measured as a dichotomous variable asking the participants if they had the feeling that their ventures were currently under threat). Furthermore, we controlled for the entrepreneurs' age (measured in years) and gender, given that older (Cruz & Justo, 2017) and female (Orser, Riding, & Manley, 2006) entrepreneurs tend to make decisions in more cautious ways and are more inclined to avoid substantial venture changes in their strategic decision-making policies. Additionally, we included the entrepreneurs' educational level (measured as a dichotomous variable; 1 = university degree, 0 = other) given that education is a component of human capital that can affect decision making (Shepherd et al., 2015). Regarding attributes related to the venture, we controlled for venture age (measured in years) and size (measured as number of employees) since both can influence entrepreneurial decision making (Simon & Houghton, 2002). Finally, we controlled for high-technology industries (measured as a dichotomous variable; 1 = high-technology industry, 0 = other) because entrepreneurs might use their ventures' technology as a means for establishing connections with stakeholders and securing additional resources for pivoting activities (Hampel et al., 2020).

3.4 Results

The 109 entrepreneurs in our sample made 2,180 assessments. Given the nature of our data, entailing pivoting assessments nested within the entrepreneurs, we used hierarchical linear modeling (HLM) for statistical analysis (Raudenbush & Bryk, 2002). This method recognizes the potential impact of autocorrelation in data and allows decision-level (Level 1) and individual-level (Level 2) variance to be separated (Raudenbush & Bryk, 2002; Snijders & Bosker, 1999). In our study, the intraclass correlation (ICC) is 0.18, which indicates that 18% of the variance in pivoting assessments can be explained by differences between participants. This value is in line with research on multilevel methods, such as the review of studies involving tests of cross-level interactions performed by Mathieu, Aguinis, Culpepper, and Chen (2012), which establishes that ICCs commonly range from 0.15 to 0.30. Hence, the ICC value of our study signals that there is sufficient variance across participants to justify the utilization of HLM.

Because of the orthogonal design of our experiment, variables at Level 1 are not correlated. Correlations between Level 2 variables are presented in Table 2. Some of these variables are significantly correlated (e.g., entrepreneurs' age and their entrepreneurial experience). Therefore, we tested for multicollinearity in our dataset by determining the variance inflation factors (VIFs) between Level 2 variables and obtained VIFs lower than 1.5 (highest VIF = 1.40). These values are inferior to the threshold of 10 (Hair, Black, Babin, & Anderson, 2010). As such, it is not likely that multicollinearity is a problem in our dataset.

Table 3 reports the results of the HLM analyses we obtained using the Stata software. We present the coefficients, levels of significance, and robust standard errors for each of the variables. At Level 1, we consider the five characteristics of pivot assessments (the availability of financial, informational, and emotional resources as well as the capability and mission

divergence of the adapted venture). At Level 2, we present the control variables and the independent variable (optimism).

Table 2. Descriptive Statistics and Correlations of the Level 2 Variables

	Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10
1	Optimism	5.32	0.83	1.000									
2	Entrepreneur's age	35.74	7.70	-0.146***	1.000								
3	Entrepreneur's gender (male)†	85.19%	NA	0.019	0.013	1.000							
4	Entrepreneur's education (university degree)±	90.36%	NA	-0.116***	0.045	0.031	1.000						
5	Entrepreneur's entrepreneurial experience	0.74	1.04	0.054*	-0.264***	-0.195***	-0.362***	1.000					
6	Entrepreneur's previous pivoting experience§	48.37%	NA	0.164***	0.075**	0.164***	-0.117***	0.101***	1.000				
7	Venture's threat^	54.76%	NA	-0.168***	0.022	0.005	0.173***	0.045	0.145***	1.000			
8	Venture's age	2.84	2.06	-0.150***	0.016	0.119***	0.120***	0.104***	0.032	0.032	1.000		
9	Venture's size	9.71	16.25	0.159***	0.042	-0.072**	0.038	0.055*	0.016	0.017	-0.264***	1.000	
10	High-tech industry©	55.68%	NA	0.036**	0.213***	-0.054*	0.179***	-0.074**	0.054*	-0.051*	-0.086***	0.114***	1.000

* p < .05, ** p < .01, *** p < .001

Notes: N = 109 entrepreneurs
SD = standard deviation
† 0 = "male," 1 = "female"
± 0 = "no university degree," 1 = "university degree"
§ 0 = "never pivoted," 1 = "pivoted before"
^ 0 = "venture not under threat," 1 = "venture under threat"
© 0 = "not a technology-related sector," 1 = "technology-related sector"

Table 3. Entrepreneurs' assessed likelihood to pivot

	Model 1			Model 2			Model 3			Model 4		
	Coefficient	SE	P-Value	Coefficient	SE	P-Value	Coefficient	SE	P-Value	Coefficient	SE	P-Value
Intercept	3.69	0.05	0.000	3.69	0.05	0.000	3.68	0.05	0.000	3.68	0.05	0.000
Level 1												
Financial resources (FR)				1.75	0.09	0.000	1.74	0.09	0.000	1.74	0.09	0.000
Informational resources (IR)				0.59	0.06	0.000	0.59	0.06	0.000	0.59	0.06	0.000
Emotional resources (ER)				0.55	0.06	0.000	0.55	0.05	0.000	0.55	0.05	0.000
Capability divergence (CD)				-1.44	0.08	0.000	-1.44	0.08	0.000	-1.44	0.08	0.000
Mission divergence (MD)				-1.48	0.11	0.000	-1.48	0.11	0.000	-1.48	0.11	0.000
Level 2												
Entrepreneur's age	-0.01	0.00	0.182	-0.01	0.00	0.182	-0.01	0.00	0.182			
Entrepreneur's gender (male)	-0.09	0.15	0.551	-0.09	0.15	0.551	-0.08	0.15	0.551			
Entrepreneur's educational level	-0.36	0.32	0.260	-0.36	0.32	0.260	-0.37	0.30	0.260			
Entrepreneur's entrepreneurial experience	0.04	0.06	0.448	0.04	0.06	0.448	0.05	0.06	0.448			
Entrepreneur's pivoting experience	-0.06	0.11	0.566	-0.06	0.11	0.566	-0.04	0.11	0.566			
Venture's threat	0.21	0.11	0.064	0.21	0.11	0.064	0.19	0.11	0.064			
Venture's age	0.07	0.02	0.003	0.07	0.02	0.003	0.06	0.02	0.003			
Venture's size	0.00	0.00	0.429	0.00	0.00	0.429	0.00	0.00	0.429			
High-tech industry	0.23	0.11	0.045	0.23	0.11	0.045	0.25	0.11	0.045			
Optimism (OPT)							-0.07	0.06	0.275	-0.07	0.07	0.377
Cross-level interactions												
FR X OPT							-0.28	0.12	0.029	-0.28	0.12	0.029
IR X OPT							0.05	0.08	0.481	0.06	0.08	0.481
ER X OPT							0.14	0.06	0.036	0.14	0.06	0.036
R^2 Level 1	0.01			0.59			0.60			0.58		
R^2 Level 2	0.19			0.19			0.21			0.01		

* p < .05, ** p < .01, *** p < .001

Notes: N =109 entrepreneurs

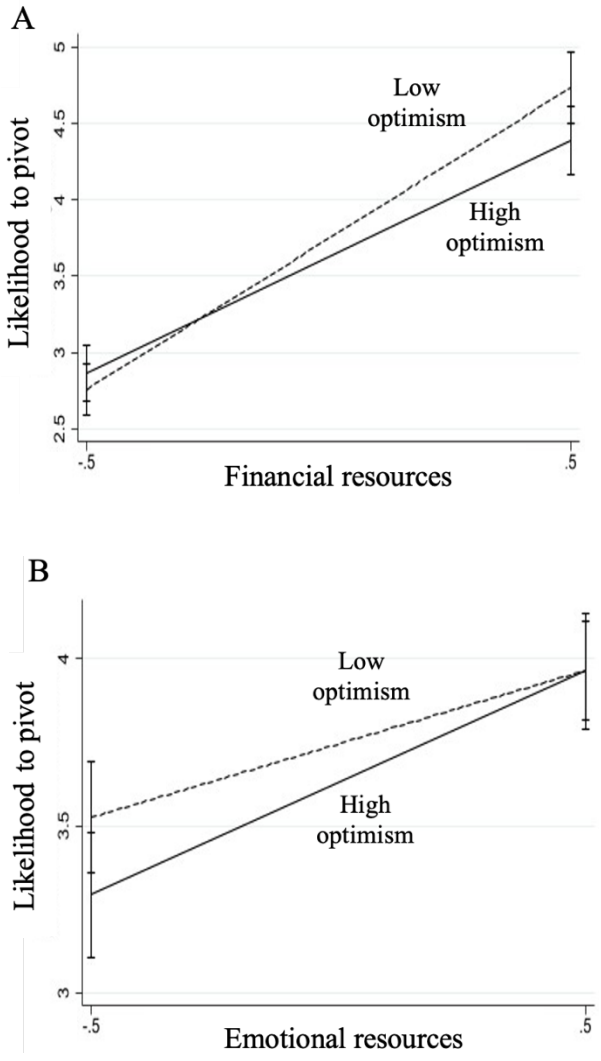
‡‡ We calculated the pseudo R^2 as described by Snijders and Bosker (1999)

We report three models. Model 1 introduces only the control variables at Level 2. Model 2 includes the main affects at Level 1, including the availability of financial, informational, and emotional resources for the pivot as well as the capability and mission divergence of the adapted venture. Finally, Model 3 additionally includes the main effect of optimism at Level 2 and the hypothesized cross-level two-way interactions. For all models, we present the pseudo R^2 values at Level 1 and Level 2, calculated based on Snijders and Bosker's work (1999).

We rely on Model 3 as the full model to interpret the results. Hypothesis 1 postulates that in entrepreneurs' pivoting assessments, the positive relationship between financial resources and the likelihood to pivot is weaker when optimism is high than when it is low. The results in Table 3 indicate that the hypothesized interaction between optimism and financial resources has a negative and significant coefficient (coefficient = -0.28; p = 0.02). Further, Hypothesis 2 proposes that in entrepreneurs' assessments of pivoting, the positive relationship between informational resources and the likelihood to pivot is weaker when optimism is high than when it is low. However, this coefficient is not significant (coefficient = 0.05; p = 0.48), thus showing no support for Hypothesis 2. Finally, Hypothesis 3 suggests that in entrepreneurs' pivoting assessments, the positive relationship between emotional resources and the likelihood to pivot is stronger when optimism is high than when it is low. The interaction between optimism and emotional resources is positive and significant (coefficient = 0.14; p = 0.03), thereby providing support for Hypothesis 3. We present graphs of the two significant interactions between optimism and both financial and emotional resources in Figures 6A and 6B, respectively. The y-axes represent the entrepreneurs' assessed likelihood to pivot, and the x-axes denote the available financial (6A) and emotional resources (6B). Two separate lines represent high (solid lines) and low (dashed lines) levels of optimism in entrepreneurs (one standard deviation above and below the mean for optimism, respectively). Figure 6A indicates that the positive relationship between available financial resources and likelihood to pivot is less positive when

entrepreneurs' optimism levels are high. In contrast, Figure 6B denotes that the positive relationship between available emotional resources and likelihood to pivot is more positive when entrepreneurs' optimism levels are high. Overall, the figures provide support for Hypotheses 1 and 3. We discuss these findings below.

Figure 6: Cross-level interactions between optimism and financial resources (A) as well as optimism and emotional resources (B)



To test the robustness of our results, we conducted a robustness check of Model 3, in which we excluded the control variables. This robustness check is included in Model 4 in Table 2. The pattern of results reported above did not change.

3.5 Discussion

While prior research has emphasized the relevance of available resources for engaging in a pivot (Hampel et al., 2020; McDonald & Gao, 2019), our study indicates that the relationship between different types of available resources and the likelihood that entrepreneurs will pivot is contingent on their personalities. Specifically, entrepreneurs' perceptions of the value of available financial, informational, and emotional resources during pivoting assessments are differentially shaped by their optimism levels. These findings have implications for the literatures on pivoting, entrepreneurial decision making, and optimism in entrepreneurship.

3.5.1 Theoretical implications

First, we contribute to the growing work on pivoting in new ventures (Hampel et al., 2020; Kirtley & O'Mahony, 2020). Existing research has substantially increased our understanding of the consequences of pivoting in terms of conveying legitimacy to venture stakeholders (Hampel et al., 2020) and communicating the associated adaptations effectively (McDonald & Gao, 2019). However, although some research has explored the antecedents of entrepreneurial pivoting (Berends et al., 2021; Grimes, 2018; Hampel et al., 2020), this work has largely overlooked how different resource situations can lead entrepreneurs to decide to implement a potential pivot. By showing that the interplay between different types of available resources and entrepreneurs' personalities shapes entrepreneurs' pivoting assessments, our study extends the idea that pivots are resource intensive (Kirtley & O'Mahony, 2020; McDonald & Gao, 2019). Specifically, our study identifies entrepreneurs' personalities as a key contingency that shapes the value of available resources for entrepreneurs in a potential pivot but differently for different types of resources. Therefore, more resources may not always increase the likelihood of pivoting. Rather, only in situations where the available bundle of resources fits the personal preferences of the entrepreneur based on his or her personality is a pivot likely to happen.

More specifically, our work reveals that available financial resources are less conducive to pivoting when entrepreneurs are generally more optimistic. This is an interesting finding because successful pivots typically require many resources (Kirtley & O'Mahony, 2020), and financial resources are fungible and can thus be used to acquire other types of resources (Khaire, 2010). However, according to our study, at least some entrepreneurs (those who are highly optimistic) seem to go forward and pivot even without many financial resources at hand. These entrepreneurs may potentially underestimate the role of financial resources in pivoting and are less successful in their pivoting efforts than entrepreneurs who are less optimistic and draw on more financial resources. It would be interesting to study the long-term success of pivoting based on the concomitant consideration of available financial resources and entrepreneurs' optimism.

Moreover, we show that the availability of emotional resources is likely to trigger pivoting mostly for entrepreneurs who are highly optimistic. To some extent, this finding is counterintuitive because one may assume that those who are low in optimism (i.e., have negative feelings about the future) especially need emotional support to go forward. For example, the entrepreneurial failure literature has emphasized the importance of emotional support for failed entrepreneurs and has shown that such support is more important after failure for those experiencing higher negative emotions (Patzelt, Gartzia, Wolfe, & Shepherd, 2021; Shepherd, Wiklund, & Haynie, 2009). Our study, however, suggests that positive feelings about the future based on optimism (Stotland, 1969; Trevelyan, 2008) provide the basis for entrepreneurs to value emotional support when assessing a potential pivot. Therefore, it appears that the notion that those who feel the worst about the future (low optimism) need the most emotional support does not apply for entrepreneurs considering a pivot.

Second, our study provides more nuance to understand the role of optimism in the entrepreneurial process. We theorize and show that optimism weakens the positive relationship

between financial resources and the likelihood to pivot, whereas it strengthens the positive relationship between emotional resources and the likelihood to pivot. Thus, optimism does not generally increase the value that entrepreneurs attach to resources because they see available resources through "rose-colored glasses" (Hmieleski & Baron, 2009, p. 477), nor does it decrease their value because optimism can compensate for a lack of available resources (Hayward, Shepherd, & Griffin, 2006a). However, optimism does play a complex role in entrepreneurs' assessments of resources for pivoting as it discriminates between different resource types, rendering their availability either more or less valuable for a pivot. To understand the role of optimism, it seems insufficient to focus only on its overall effect as "a positive, motivating force" (Trevelyan, 2008, p. 987); the specific decision-making context also needs to be considered.

Finally, our study has implications for research on entrepreneurial decision making. Prior work has emphasized the importance of addressing entrepreneurs' heterogeneity for understanding how they make decisions (J. R. Mitchell et al., 2005; Shepherd et al., 2015). We provide an increased understanding of how entrepreneurs make decisions by acknowledging that the heterogeneity in terms of their personalities can shape their resource-evaluation policies and thus their pivoting assessments. Indeed, although prior research has suggested that personality traits substantially impact how entrepreneurs view resources (de Meza & Southey, 1996; Ucbasaran et al., 2010), there has been little exploration of how entrepreneurs' different evaluations impact their specific decisions. Our work suggests that even if traits do not directly impact entrepreneurs' decisions (see the non-significant main effect of optimism in Table 2, coefficient = -0.07, $p = 0.2$), they might shape how decision attributes are weighted. Thus, we demonstrate that cross-level interactions are important determinants of how personality traits can trigger entrepreneurial decisions that lead to either action or inaction. Future research could further extend these insights and study the extent to which personality traits shape

entrepreneurs' decision-making policies when engaging in different types of decisions for their ventures, such as opportunity exploitation (Choi & Shepherd, 2004a) or internationalization (Arregle, Naldi, Nordqvist, & Hitt, 2012; Domurath & Patzelt, 2016).

3.5.2 Limitations and avenues for future research

Given our interest in understanding entrepreneurs' assessments of a potential pivot, we relied on metric conjoint analysis (Louviere, 1988; Shepherd & Zacharakis, 2018) for our study, focusing on a limited number of decision cues. This method allowed us to investigate entrepreneurs' assessments in real time (Lohrke, Holloway, & Woolley, 2010), thus reducing the reliance on potentially biased retrospective self-reporting (Shepherd & Zacharakis, 2018). However, we acknowledge that the conjoint analysis method is connected to some limitations. First, the data collected through the hypothetical assessments might have differed from the entrepreneurs' actual judgements. For example, our approach did not capture the potential dynamic qualities of the decision process over time (Lewis & Cardon, 2020) or consider the possible influence of additional venture team members on the decisions (Kier et al., 2021). However, prior work has found that decisions based on hypothetical profiles are similar to real decisions, indicating the validity of our approach (Brown, 1972; Riquelme & Rickards, 1992). Further, we aimed at reducing this potential limitation by providing participants with specific instructions prior to their assessments. Namely, we asked them to consider each of the scenarios individually, thinking of all other potential attributes as constant across the assessments. However, future research could follow entrepreneurs as they engage in the process of deciding whether to pivot and study how they benefit from available resources. For example, the application of think-aloud methodologies, such as verbal protocol analysis, could be useful to undercover the cognitive processes (Ericsson & Simon, 1984) associated with the utilization of available resources within real-life entrepreneurs' pivoting assessments.

Second, the focus of our study was to determine the antecedents of entrepreneurs' assessments of a potential pivot and to explore complex interactions between the attributes presented in our hypotheses. As such, investigating the outcomes that these assessments can trigger in entrepreneurial ventures represents a fruitful avenue for future studies. For example, a potential subsequent study could investigate whether different types of decision-making policies have an impact on new venture survival and future development. Such work could help shed more light on whether certain types of resources are more or less valuable for pivoting outcomes contingent on entrepreneurs' personalities.

Finally, as a personality trait, our study focused on the role of entrepreneurs' optimism in their pivoting assessments. While optimism is highly important for entrepreneurs' decisions to start a venture (Bernardo & Welch, 2001; Gavin Cassar, 2009), the amount of time (Puri & Robinson, 2007) and effort (Parker, 2006) they choose to invest in developing their firms, and how they determine the strategies their ventures will follow (Amore et al., 2021), future research could include additional characteristics, such as entrepreneurs' self-efficacy (C. C. Chen, Greene, & Crick, 1998), regulatory focus (Higgins, 1998), and locus of control (Rotter, 1966). Understanding the role of additional characteristics might even help explain the complex cross-level interactions between resource availability and entrepreneurs' personalities in pivoting.

3.6 Conclusion

In this study, we develop and empirically test a model of entrepreneurs' pivoting assessments and the role of available resources. We theorize and find that the role of resources is contingent on entrepreneurs' levels of optimism. However, optimism shapes the perceived value of different types of resources in diverging ways. Given the importance of strategic adaptations in new ventures, we hope our study inspires future research to further explore important antecedents of entrepreneurial pivoting, particularly the complex interplay between entrepreneurs' resource availability and their personal preferences and characteristics.

4 Summary of findings, contributions, and avenues for future research

The two essays in this dissertation aim to increase our understanding of entrepreneurs' decisions related to resources within the context of their ventures. In particular, the first essay employs a theoretical perspective to develop a systematic review of the literature situated at the intersection of entrepreneurial decision-making and resources. Furthermore, this essay outlines promising avenues for future research. The second essay acquires an empirical perspective and focuses on pivoting as a specific strategic decision while investigating the influence of resource availability and entrepreneurs' personalities on their assessments of a potential pivot. In the following, I present a summary of the key findings obtained through these studies and outline some contributions to extant academic conversations. Finally, I provide avenues for future research in the fields of entrepreneurial decision making, pivoting, and optimism in entrepreneurship.

4.1 Key findings and theoretical contributions

4.1.1 Entrepreneurial decision making

The first essay of this dissertation provides a comprehensive synthesis of existing studies that investigate how entrepreneurs decide over their ventures' resources. By incorporating insights from prior research, I identify that scholars traditionally distinguish between different resource stages to investigate entrepreneurs' decisions. Namely, literature considers resource evaluation, mobilization, orchestration, and reallocation as key stages marking the engagement with different decisions necessary to foster the development of new ventures. By clearly delineating and providing definitions for each of these resource stages, I seek to address the conceptual ambiguity (Clough et al., 2019; Zahra, 2021) characterizing extant research in this field.

Furthermore, my first essay contributes to existing research by offering a process-based perspective that considers the dynamic nature of decisions associated with resources in new ventures. Most studies shed light on the antecedents of these decisions, such as environmental factors (Baker & Nelson, 2016; Michaelis, Carr, Scheaf, & Pollack, 2020b; Zahra & Garvis, 2000), or entrepreneurs' demographic characteristics (Jabbari et al., 2022; Neeley & Auken, 2009). Alternatively, prior work explores the outcomes of these decisions (Borch et al., 1999; Edelman et al., 2005; Katila et al., 2022). However, research exploring how entrepreneurs decide over their ventures' resources still lacks a clear understanding of how the diverse resource stages are interrelated. By systematically reviewing prior literature, I find that these stages are temporally distributed across the lifecycle of an entrepreneurial venture. Furthermore, I identify that these stages may not always follow a strictly sequential order, as the evaluation of a new entrepreneurial opportunity triggers iterative loops between diverse resource stages, potentially making entrepreneurs reassess previously made decisions.

Finally, I find that the study of some resource stages is underdeveloped. In particular, the processes associated with entrepreneurs' evaluations of resources have been largely overlooked by previous research. Importantly, entrepreneurs' judgements of a resource as *valuable* can determine subsequent decisions (Felin et al., 2021) that impact new venture development. Grounded in this theoretical knowledge, the second essay of this dissertation empirically explores the role of entrepreneurs' perceptions of the value of resources in shaping strategic venture decisions.

In essay II, I address entrepreneurs' heterogeneous personalities as an important antecedent of their decision making (J. R. Mitchell et al., 2005; Shepherd et al., 2015) and find that entrepreneurs' levels of optimism shape the extent to which they judge a resource as valuable when assessing a potential pivot. Moreover, I theorize and find empirical evidence that

entrepreneurs' optimism shapes the value that they associate with different types of resources in diverging ways, which highlights the need to consider cross level interactions to develop a more holistic understanding of the role of personality in entrepreneurial decision making.

4.1.2 Entrepreneurial pivoting

The second essay of this dissertation contributes to the growing work on entrepreneurial pivoting (Berends et al., 2021; Hampel et al., 2020; Kirtley & O'Mahony, 2020) by generating new insights on why some entrepreneurs decide to persevere with their original ideas while others choose pivoting as a strategy to help their ventures "deal with the unfolding contexts they are confronted with" (Berends et al., 2021, p. 1). Prior research on pivoting in the entrepreneurial context emphasize its resource-intensive nature (Kirtley & O'Mahony, 2020; McDonald & Gao, 2019). Through the experimental design employed in this study, I find empirical evidence of the relevance of several types of resources, i.e., financial, informational, and emotional resources, for entrepreneurs' pivoting decisions.

Furthermore, while I find that available resources are indeed important for entrepreneurs' assessments of potential pivots, my second essay further extends this notion by demonstrating that resources' influence is contingent on entrepreneurs' personalities. More specifically, my results show that highly optimistic entrepreneurs are more likely to turn to pivoting when emotional resources are extensively available to them. However, financial resources seem to be less conducive to entrepreneurs' pivoting decisions. This is an interesting finding that demonstrates that, on the one hand, entrepreneurs with high levels of optimism might have favorable expectations that increase their perceptions of control (Bruce & Thornton, 2004; Forest et al., 1979) and lead them to underestimate the role of financial resources in pivoting, which might motivate them to go forward despite having limited resources available. On the other hand, this finding also indicates that highly optimistic entrepreneurs extensively build on

the emotional support provided by those close to them when assessing a pivot, most likely because receiving emotional resources prompts them to envision a positive future (Segerstrom, 2007) in relation to the outcomes of a potential pivot. As such, this study suggests that resource availability is a necessary but insufficient condition to facilitate entrepreneurial pivots; rather, the set of available resources needs to fit the specific personal preferences of the focal entrepreneur to increase the likelihood of pivoting.

4.1.3 Optimism in entrepreneurship

My second essay contributes to the academic conversation on optimism in entrepreneurship (Trevelyan, 2008; Ucbasaran et al., 2010) by offering a more nuanced understanding of its role within the entrepreneurial process. In particular, in this study I find that optimism does not have the effect of universal "rose-colored glasses" (Hmieleski & Baron, 2009, p. 477) positively influencing entrepreneurs' general outlook, as supposed in prior literature. Interestingly, my findings undercover a more complex role of optimism in entrepreneurs' assessments, as it weakens the positive relationship between financial resources and the likelihood to pivot but strengthens the positive relationship between emotional resources and the likelihood to pivot.

The results from Essay II therefore suggest that as opposed to unconditionally being a direct driver of entrepreneurial (in)action, optimism represents an important contingency that explains how entrepreneurs interpret their ventures' particular situations, thus acting as a trigger of subsequent decision making processes. As such, this study addresses previous calls to consider how heterogeneity in entrepreneurs' levels of optimism shapes their assessments of decision situations (Shepherd et al., 2015; Trevelyan, 2008). Moreover, this study evidences the need to account for the specific context of entrepreneurs to understand how optimism can impact their decisions.

4.2 Avenues for future research

This dissertation is conceptually positioned at the intersection of entrepreneurial decision making and resources, studying the field from a theoretical and empirical perspective through the two essays presented in Chapters 2 and 3. The development of these studies enabled the identification of some fruitful avenues for future research in entrepreneurial decision making, pivoting, and optimism in entrepreneurship, which I outline in the following.

4.2.1 Avenues for future research on entrepreneurial decision making

As argued in section 4.1.1, research exploring entrepreneurs' decisions related to resources within the context of their ventures has disproportionally emphasized the study of intermediate resource stages, leaving important voids in our understanding of the decisions that entrepreneurs make in the pre-venture foundation and post-venture exit stages. More specifically, research on entrepreneurial decision making could benefit from additional insights into the cognitive mechanisms that intervene in entrepreneurs' resource evaluations. Considering initial findings indicating a prominent role of cognitive biases in entrepreneurs' processual logic during resource evaluation decisions (Kemmerer et al., 2012), it would be highly interesting to follow recent studies in entrepreneurial decision making and employ novel methodologies such as neuroimaging (Shane, Drover, Clingingsmith, & Cerf, 2020) or computational modeling (J. S. Chen, Elfenbein, Posen, & Wang, 2022a) to shed light on the processes that lead entrepreneurs to evaluate a particular resource as desirable. Moreover, it would also be insightful to apply experimental approaches to undercover the specific attributes that signal resource desirability to entrepreneurs.

Furthermore, the small body of work exploring how entrepreneurs decide over their ventures' resources following an exit event (Mathias et al., 2017; Santamaria, 2022) examines how entrepreneurs reallocate their ventures' resources after the focal venture ceases to exist.

However, investigating reallocation decisions after further exit events might be fruitful to understand how entrepreneurs find a new, best use for their available resources. Future literature could thus explore whether different exit events, such as the exit of a member of the entrepreneurial team (Ucbasaran et al., 2003) or technological exits (Chen, Qian, & Narayanan, 2017) lead entrepreneurs to apply diverging policies when deciding how to best reallocate their ventures' resources to develop entrepreneurial opportunities.

Moreover, this dissertation highlights the importance of considering entrepreneurs' heterogeneous personalities to gain a deeper understanding of how they perform assessments. In particular, essay I synthetizes extant research at the intersection of entrepreneurial decision making and resources, underscoring that entrepreneurs' personalities can shape their assessment policies during several resource stages (e.g., resource search, bundling, and deployment). Surprisingly, existing studies typically rely on entrepreneurs' directly observable characteristics to account for the variability in their decision making policies (Gruber et al., 2012; Mai & Zheng, 2013; Neeley & Auken, 2009), largely ignoring the impact that their heterogeneous personality characteristics can have (Shepherd et al., 2015). Essay II of this dissertation takes a first step in this direction by empirically investigating how entrepreneurs' optimism levels shape their perceptions of value of available resources while assessing a potential pivot. However, exploring further personality characteristics might reveal additional contingencies that modify entrepreneurs' resource valuation policies in different ways. Furthermore, future studies could also examine the extent to which personality traits shape entrepreneurs' decision-making policies when engaging in different types of decisions for their ventures, such as opportunity exploitation (Choi & Shepherd, 2004a) or internationalization (Arregle et al., 2012; Domurath & Patzelt, 2016).

4.2.2 Avenues for future research on entrepreneurial pivoting

This dissertation adds to our understanding of pivoting as a key strategic decision (McDonald & Gao, 2019) shaping the development of entrepreneurial ventures (Kirtley & O'Mahony, 2020). More specifically, essay II explores the role of entrepreneurs' decision making context and personality as antecedents to entrepreneurial pivoting. Furthermore, this essay theorizes and empirically investigates complex interactions between attributes as a precedent to entrepreneurs' assessments of a potential pivot. However, little is known to date on the outcomes that these decisions generate for the trajectories of entrepreneurial ventures. Therefore, a fruitful avenue for future studies would be investigating the long-term effects of pivots for the performance and survival of entrepreneurial ventures.

Furthermore, essay II is anchored in prior research acknowledging the critical function of stakeholders for pivoting decisions, as these decisions are impacted by stakeholder feedback (Grimes, 2018) as well as the entrepreneurs' considerations of demonstrating legitimacy (McDonald & Gao, 2019) and their identification with the venture (Hampel et al., 2020). Given the relevance of venture stakeholders for entrepreneurial pivots, exploring the role that different types of stakeholders (e.g., mentors, investors, advisors) can play in the implementation of a pivot seems a promising direction for future research.

Moreover, essay I of this dissertation follows prior literature in conceptualizing pivoting as a "radical departure" (McDonald & Gao, 2019, p. 20) from the original venture to such a large extent, that it can be analogous to an entrepreneurial exit (Flechas Chaparro & de Vasconcelos Gomes, 2021). However, recent work diverges from this view and rather suggests pivoting as the product of gradual modifications undertaken when entrepreneurs turn to an experimental venture development approach (J. S. Chen, Elfenbein, Posen, & Wang, 2022b). Scholars could thus further extend these insights and seek the reconciliation of these seemingly contradictory

perspectives on entrepreneurial pivoting. Perhaps carving out additional nuances in the conceptualization of pivots could pave the way for a deeper understanding of how entrepreneurial ventures perform these strategic reorientations.

4.2.3 Avenues for future research on optimism in entrepreneurship

By theorizing and finding empirical evidence that the value of different types of resources is shaped by entrepreneurs' optimism levels in diverging ways (essay II), this dissertation sheds light on the complex role that optimism plays in entrepreneurs' assessments. While prior scholars have suggested that optimism might lead to heuristic decision making (Hmieleski & Baron, 2009) that triggers simplified assessments in entrepreneurs, there seem to be several facets of the effects of optimism in entrepreneurial decisions. It would thus be highly interesting for future studies to further explore how optimism shapes decision making in entrepreneurship. This could be done, for instance, by utilizing a combination of decision tasks and verbal protocol analysis, which is a technique used "to undercover what lines of reasoning" (Mathias & Williams, 2016, p. 6) entrepreneurs employ at the moment of making a specific decision. Moreover, research on optimism in entrepreneurship has so far mainly focused on individuals (e.g., Trevelyan, 2008; Ucbasaran et al., 2010), but we still lack insights into how optimism might influence the collective cognition of entrepreneurial team members (Klotz et al., 2013). Future research could thus investigate how team-level interactions (i.e., interactions between individuals with different levels of optimism) impact the processes through which entrepreneurial teams make sense of their environment while selecting strategies to foster the development of their ventures.

4.3 Practical implications

The relevance of accurate decision making in the uncertain context that characterizes entrepreneurial endeavors (Shepherd et al., 2015) means that insights from this dissertation can be helpful for certain groups of practitioners. In particular, this dissertation's findings may offer interesting implications to both entrepreneurs, as well as to entities or individuals dedicated to support them, such as mentors or venture advisors. First, findings from essay I suggest that entrepreneurs should be aware that the decisions that they make to establish a trajectory for their ventures may not always be the product of purely rational choices. Instead, their personalities are likely to determine the way in which they perform assessments. Furthermore, my second essay complements these findings from an empirical perspective, by showing that entrepreneurs' beliefs and expectations can substantially modify their decision-making policies. Overall, this should encourage entrepreneurs to maintain a high degree of objectivity and neutrality when analyzing the information that supports their assessments. Furthermore, I would also encourage entrepreneurs to involve co-founders and mentors in their decision-making processes. This might prove helpful on the one hand, to enrich the pool of available information when selecting between alternative venture development paths. On the other hand, other individuals might be able to point at potential biases in their reasoning, therefore improving the quality of their decisions. As such, remaining open to the incorporation of additional perspectives when making assessments might ultimately contribute to the performance of their ventures.

Second, findings from this dissertation also offer implications for entities and individuals dedicated to support entrepreneurs along their journeys. In particular, the ability to influence entrepreneurs' decisions highlights the ethical duty of providing accurate and complete information that helps entrepreneurs to grow their ventures in a sustainable manner.

Furthermore, findings from essay II in this dissertation suggest that the emotional resources provided to entrepreneurs are critical for them to successfully navigate the multiple challenges associated with venture development. Therefore, mentors and venture advisors should not underestimate the importance of granting moral support and encouragement to entrepreneurs during difficult situations, as these might not only have a positive influence in their decisions (De Carolis et al., 2009) but also, help to promote their well-being (Haslam et al., 2005).

4.4 Conclusion

This dissertation investigates entrepreneurs' decisions related to resources within the context of their ventures. First and foremost, I acquire a theoretical perspective to explore the topic and synthesize existing literature at the intersection of entrepreneurial decision making and resources. Building on insights from prior scholars and a comprehensive coding approach, I offer a process map that acknowledges the different stages that resources undergo across the lifecycle of an entrepreneurial venture. Further, I outline research questions that could represent future avenues for scholarly work concerning each of the identified resource stages. Second, I empirically investigate entrepreneurs' pivoting decisions as a strategic decision that critically shapes the development of new ventures. Drawing on data from a conjoint experiment, this study explores the role that resource availability as well as the entrepreneurs' heterogeneous personality characteristics play in shaping their pivoting assessments. Overall, I hope this dissertation inspires further research that examines how entrepreneurs decide over their ventures' resources by considering the role that their personality traits play in their assessments.

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Appendix

Appendix 1: List of excluded journals from literature review

Exclusion Criterion	Journals
Non-English Journal	Acta Universitatis Danubius: Oeconomica
	Administração: Ensino E Pesquisa
	Amfiteatru Economic
	Anales de psicología
	Ars Administrandi
	Betriebswirtschaftliche Forschung Und Praxis
	Cadernos De Gestão Pública E Cidadania
	Cadernos EBAPE.BR
	Casopis Za Ekonomiju I Trzisne Komunikacije
	Central Russian Journal of Social Sciences
	Cuadernos De Administración
	Debates IESA
	Decisión
	Desarrollo Economico-Revista De Ciencias Sociales
	Desarrollo Gerencial
	Dimensión Empresarial
	Economic Analysis
	Economic Research-Ekonomska Istrazivanja
	Economica
	Economics & Business
	Edukacja Ekonomistow I Menedzerow
	Ekonomia I Prawo

Ekonomicky Casopis

Ekonomika APK

Eutopía: Revista De Desarrollo Económico Territorial

Folia Oeconomica Stetinensia

Galician Economic Journal

Girisimcilik Ve Kalkinma Dergisi

Inzinerine Ekonomika-Engineering Economics

Jurnal Pengurusan

Lancet

Mali Cozum Dergisi

Nankai Business Review

Nauki O Zarzadzaniu

Oblik I Finansi

Poslovni Konsultant

Prace Naukowe Uniwersytetu Ekonomicznego We Wroclawiu

Prakticheskiy Marketing

Problemy Zarzadzania

RAC - Revista De Administração Contemporânea

RAE: Revista De Administração De Empresas

RBGN-Revista Brasileira De Gestao De Negocios

Recherches En Sciences De Gestion

REGE Revista De Gestão

Revista Ciencia Administrativa

Revista De Administraçãao Da UNIMEP

Revista De Administração

Revista De Administração Da UFSM

Revista De Administração E Inovação – RAI

	Revista De Administração Mackenzie
	Revista De Empreendedorismo E Gestao De Pequenas Empresas
	Revista De Gestão, Finanças E Contabilidade
	Revista De Tecnologia Aplicada
	Revista Ibero-Americana De Estratégia (RIAE)
	Revista Perspectiva Empresarial
	Revue Des Sciences De Gestion
	Revue Internationale PME
	Revue Management Et Avenir
	Russian Journal of Entrepreneurship
	Scientific Journal of National University of Life & Environmental Sciences of Ukraine. Series: Economy, Agrarian Management, Business
	Selye E-Studies
	St. Petersburg State Polytechnic University Journal. Economics
	Vestnik Adygeiskogo Gosuderstvennogo Universiteta, Seriya Ekonomika
	Vestnik Of Astrakhan State Technical University Series: Economics
	Vestnik of the Plekhanov Russian University of Economics
	Vestnik Uzno-Ural'skogo Gosudarstvennogo Universiteta
	Vestnik Volgogradskogo Gosudarstvennogo Universiteta. Seriâ 3, Èkonomika, Èkologiâ
Off-Topic Journal	Accounting And Financial History Research Journal
	Accounting Review
	Action Learning: Research & Practice
	Annals Of Operations Research
	Basic Income Studies
	Benchmarking: An International Journal

Business Education Innovation Journal

Business History

Career Development International

Central European Journal of Operations Research

Comparative Strategy

Ecology Law Quarterly

Economic Geography

Economic History Review

Electronic Journal of Information Systems Evaluation

Energy Policy

Engineering Construction and Architectural Management

Engineering Management Journal

Environmental & Resource Economics

Equality, Diversity & Inclusion

Frontiers In Human Neuroscience

Forest Policy & Economics

Gender In Management

Global Journal of Flexible Systems Management

Habitat International

Human Resource Management Review

IEEE Transactions on Engineering Management

IEEE Transactions on Professional Communication

Industrial & Commercial Training

Industrial and Corporate Change

Industrial Management & Data Systems

Industrial Marketing Management

Information, Communication & Society

International Affairs

International Journal of Arts Management

International Journal of Contemporary Hospitality Management

International Journal of Cooperative Information Systems

International Journal of Educational Development

International Journal of Emerging Markets

International Journal of Logistics Management

International Journal of Managing Projects in Business

International Journal of Manpower

International Journal of The Academic Business World

International Journal of Water Resources Development

Internet Research

Journal of Academic Librarianship

Journal of Behavioral Health Services & Research

Journal of Business & Finance Librarianship

Journal of Cleaner Production

Journal of Commercial Biotechnology

Journal of Computer Information Systems

Journal of Economic Issues (Association for Evolutionary Economics)

Journal of Economic Literature

Journal of Energy & Economic Development (Jenergyed)

Journal of Forest Economics

Journal of Hospitality and Tourism Management

Journal of Human Resources in Hospitality & Tourism

Journal of Intelligent & Fuzzy Systems

Journal of Operational Risk

	Journal of Operations Management
	Journal of Promotion Management
	Journal of Public Affairs
	Journal of Supply Chain Management
	Journal of Supply Chain Management Systems
	Journal of the Operational Research Society
	Long Range Planning
	Management Dynamics in The Knowledge Economy
	Petroleum - Gas University of Ploiesti Bulletin, Economic Sciences Series
	Problems of Economy
	Public Administration
	Public Administration Review
	Public Relations Review
	Quarterly Journal of Austrian Economics
	Regional Studies
	Research In Hospitality Management
	Review Of Economic Dynamics
	Simulation & Gaming
	Technological Forecasting and Social Change
	Tourism Management
	TQM Journal
	Urban Studies
	Vanderbilt Law Review
Regional Focus Journal	Africa Journal of Management
	African Journal of Business Management
	American Economic Review

American Journal of Economics And Sociology

American Journal of Management

American Sociological Review

Annals of 'Constantin Brancusi' University Of Targu-Jiu. Economy Series

Annals of Eftimie Murgu University Resita, Fascicle II, Economic Studies

Annals of Regional Science

Annals of The University Of Oradea, Economic Science Series

ASCI Journal of Management

Asia Pacific Journal of Marketing And Logistics

Asia Pacific Viewpoint

Asian Academy of Management Journal

Asian Business & Management

Asian Case Research Journal

Australasian Accounting Business & Finance Journal

Brazilian Business Review (English Edition)

British Journal of Management

Brooklyn Journal of Corporate, Financial & Commercial Law

Bulletin of The Transilvania University Of Brasov. Series V: Economic Sciences

Business Ethics: A European Review

Business Management / Biznes Upravlenie

California Management Review

Canadian Journal of Administrative Sciences

Central European Business Review

Chinese Management Studies

Columbia Journal of World Business

DLSU Business & Economics Review

Eurasian Business Review

European Business Review

European Integration Studies

European Journal of Applied Economics

European Journal of Development Research

European Journal of Finance & Banking Research

European Journal of Innovation Management

European Journal of International Management

European Journal of Marketing

European Management Journal

European Research on Management And Business Economics

European Structural & Investment Funds Journal

European Urban & Regional Studies

Fiib Business Review

Financial Internet Quarterly 'E-Finanse'

Innovation: The European Journal of Social Sciences

Iranian Journal Of Management Studies

Itihas - The Journal Of Indian Management

Iup Journal of Entrepreneurship Development

Journal of The Asia Pacific Economy

Latin American Politics & Society

Local Economy

Nankai Business Review

North American Journal of Economics And Finance

Proceedings of The Northeast Business & Economics Association

Review o Economic Studies & Research Virgil Madgearu

Review of Pacific Basin Financial Markets & Policies

Scandinavian Journal of Hospitality & Tourism

Scientific Bulletin of Polissia

Scms Journal o Indian Management

Sdmimd Journal of Management

Series-Journal of The Spanish Economic Association

South African Journal of Business Management

South African Journal of Human Resource Management

St. Petersburg State Polytechnic University Journal. Economics

Thunderbird International Business Review

Turkish Journal of Agricultural Economics

USV Annals of Economics & Public Administration

Valahian Journal Of Economic Studies

Appendix 2: Research instrument for conjoint experiment

The Pivoting Study

PURPOSE OF THE STUDY

This study explores the conditions under which entrepreneurs are most likely to decide adapting the business model of their ventures.

Finding an answer to this question is essential for entrepreneurs who might consider pivoting in the future.

In this study, the term "pivoting" refers to a change in the way a venture operates in terms of the activities that it performs, resources that it uses to perform those activities, and how it creates value for its customers.

IMPORTANT INFORMATION

It is important that you respond to all questions as incomplete surveys cannot be included in the statistical analyses. There are no right or wrong answers, but we want to learn from your personal perspective.

All information from this survey is strictly confidential and will only be reported in a way that individuals cannot be identified.

We kindly thank you for your cooperation!

INSTRUCTIONS

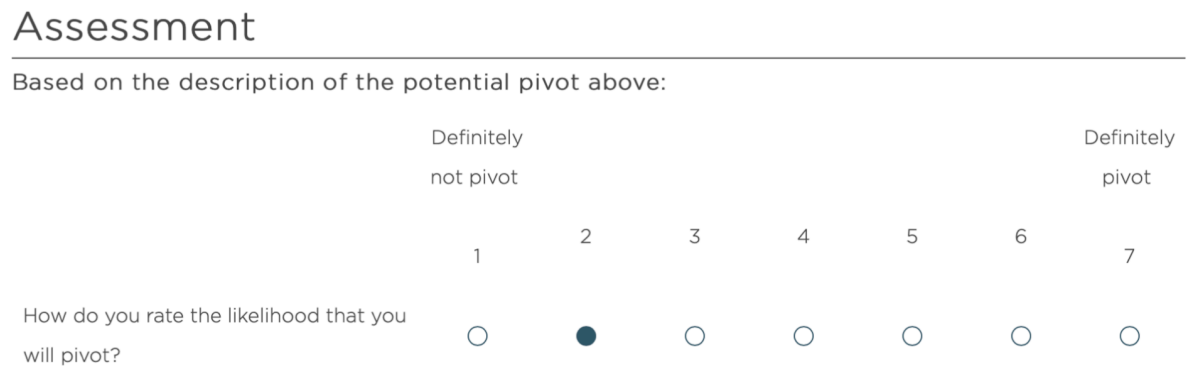
As an important member of the entrepreneurial community, you are asked in this study to judge a number of hypothetical situations in which you might pivot. Therefore, you will be presented various scenarios in which you are asked to judge the conditions under which you would be more or less likely to decide doing so.

Importantly, many ventures can **experience unforeseen** technical or market **conditions** that can **compromise the viability** of the business model they originally envisioned. In this study, please assume that your venture is potentially facing such unpredictable conditions. If you **choose not to pivot**, the **probability** that you will **experience business failure** (or even lose your business) is **extremely high**.

Structure of the Online Questionnaire:
1. Description of your task and important definitions
2. Questions about potential venture pivoting
3. Questions about you
4. Questions about your venture

YOUR TASK

In the following, we will present you hypothetical situations related to a potential pivot of your venture. These descriptions show how your venture's situation will look like if you decide to pivot in terms of the venture's mission, capabilities available, and resources that you, as an entrepreneur, will be provided with. Please assess each situation and respond by clicking the number on the following scale that best represents your assessment.
For the assessment scale for **likelihood of deciding to pivot** below, we have circled 2 as an example of a response where you assess that the likelihood of a pivot should be low (although not very low).



IMPORTANT DEFINITIONS

Please make the assessments only based upon the information provided. Imagine that the hypothetical situation relates to you as a founder, within the current environment of your own venture. You can assume that all other attributes of the potential pivot are constant across all hypothetical situations.
You are asked to consider each of the following descriptions as a separate pivot, independent of all the others.

In assessing the following situations, please use the following definitions:

Attribute	Level	Description
Alignment with mission of the venture	**High**	If you decide to pivot, the venture will keep operating under its original mission
	Low	If you decide to pivot, the venture will be required to follow a new mission
Alignment with capabilities of the venture	**High**	If you decide to pivot, the capabilities required for a successful adaptation are very aligned with the capabilities that are already available in your venture
	Low	If you decide to pivot, the capabilities required for a successful adaptation differ greatly from the capabilities that are already available in your venture
Availability of financial resources	**Extensive**	If you decide to pivot, you can expect to get substantial of financial resources on behalf of investors willing to back the adaptation
	Limited	If you decide to pivot, you cannot expect to get financial resources on behalf of investors willing to back the adaptation
Availability of informational resources	**Extensive**	If you decide to pivot, you can expect your venture-external stakeholders (e.g. experts, mentor, advisors or investors) to provide you with substantial advice on business or technology-related issues you need for making your business model adaptation work
	Limited	If you decide to pivot, you cannot expect your external stakeholders (e.g. experts, mentor, advisors or investors) to provide you with advice on business or technology-related

		issues you need for making your business model adaptation work
Availability of emotional resources	**Extensive**	If you decide to pivot, you can expect that people close to you (e.g. family, close friends or potential co-founders) would provide you with substantial encouragement to do so
	Limited	If you decide to pivot, you cannot expect that people close to you (e.g. family, close friends or potential co-founders) would provide you with the encouragement to do so

EXEMPLARY ASSESSMENT

Attribute	Level	Description
Alignment with mission of the venture	High	Your venture will keep operating under its original mission.
Alignment with capabilities of the venture	Low	The capabilities required differ greatly from those available in your venture.
Availability of financial resources	Extensive	You can expect to get substantial financial resources on behalf of investors.
Availability of informational resources	Limited	You cannot expect your external stakeholders to provide you with advice on business or technology-related issues.
Availability of emotional resources	Extensive	You can expect people close to you to provide you with substantial encouragement for the adaptation.

Based on the description of the potential pivot above: